The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

VOLUME LII CHICAGO, ILLINOIS, JUNE 12, 1909 NUMBER 24

Address

RELATION OF THE PHYSICIAN IN PRIVATE PRACTICE TO THE PUBLIC HEALTH *

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Before entering on details or discussing the more practical phase of my subject, it will be of interest, I trust, to consider briefly the relation of the public health movement to the general welfare and to the still broader theme of human progress.

SCOPE OF THE PUBLIC HEALTH MOVEMENT

Human welfare may be described under three heads: physical, mental and spiritual. These three elements are correlated, each bound closely with the others, and together they represent the scope of all human endeavor. Without minimizing in the least the other two, it seems to me that at the present time our principal needs relate to the physical.

Physical welfare is the foundation of race welfare in its broadest sense. It may be likened to the Constitution in our legal system. The Constitution is the foundation of our laws. There is not a state law, or a city ordinance, or police regulation, that does not rest on it or is not in conformity therewith, unless it be one that is voidable. Yet we think little about the Constitution, as we are enacting or enforcing our local ordinances, because we take the Constitution as a matter of course, or because it is so intimately connected with our political system that it requires no special thought.

Again, we look on the beautiful dome of the national capitol at Washington, and the legislative chambers beneath, and have scarcely a thought of the foundation on which it all so securely rests; yet it is there, and without it the dome and the chambers could not meet our vision. So physical welfare seems to me to be the necessary foundation for the general welfare; and we should so perfect it that we may lose sight of it and give our contemplation and efforts to higher welfare. In other words, physical welfare is only a means to welfare on a higher plane.

A sound mind in a sound body, *mens sana in corpore sano*, is an aphorism that has come down to us from antiquity, expressing both a truth and a goal to be attained; but in the light of modern thought it is insufficient as a guiding sentiment, since it contains no mention of the spiritual, and this latter is included in the modern thought of human progress.

Just what human progress is, just what it means, can not be defined. Writers of the day speak frequently of the uplift of the race, but there is no definition in this term; and yet, without understanding it, there is no doubt that we are all engaged in furthering human progress, in the uplift of humanity.

There is in astronomy what is known as the true stellar motion. By this is meant that, while the stars are revolving in their orbits, and the planets are also revolving on their axes, and some stars seem fixed, there is a general movement of them all, a progress through space; whither they are going and whence, we do not know, but we do know they are moving. So with human progress and the uplift; it exists. We do not understand it, and the best we can do is to catch its trend and keep ourselves in proper relation to it.

In this movement, the private physician endeavors to keep the individual in line—in his correct place as an individual in the ranks of humanity, as humanity is pressing forward to its destination. If the individual weakens, or meets with accident, the physician discovers the cause of the weakening and applies the remedy, or applies his surgical skill to repair the results of accident.

Analogous service is rendered by the lawyer, whose ideal function is to preserve justice in the ranks; and by the minister of the gospel or priest, who promotes morality and spirituality, these also being essential to human progress.

The physician, then, while ministering to the physical, is also contributing to the mental and spiritual, performing his part as others are performing theirs, absolutely necessary for the general welfare, yet only one of several units.

I fear that these somewhat abstruse thoughts may fail to interest, but I have endeavored to ascertain just where the physician stands in the realm of humanity—what is his relation to the world's work and progress. For with an understanding of our proper relations we are better able to perform our allotted part.

Now, in attempting to show the duties of the physician engaged in private practice in his relation to public health, I would not detract in the slightest degree from the importance and nobility of his ministrations to his individual patients. A qualified physician is a boon to any community. He is more: he is a necessity. Said a distinguished professor of the medical college which I was attending, during one of his lectures: "If I had a son who wished to study medicine, I would advise him against it, but, if he insisted, I would tell him to go ahead, not because of the honor there is in the profession; not because of the money there is in the profession; but simply because doctors must be."

* Address delivered at the graduation exercises of the Atlanta School of Medicine, Atlanta, Ga., April 26, 1909.

I was also once much impressed, during a conversation with the late Dr. Gilman, who was then President of the Johns Hopkins University, with his estimate of the character of the practicing physician in the many communities, large and small, which in the interest of education he had been obliged to visit. Although I do not quote him exactly, he said that he always found the representative physician of the community to be also the representative of its best intelligence in matters relating to education, general science, and the important questions of the day.

The physician must do, and generally does, more than to minister personally to the sick and injured. It is not incompatible with his calling to interest himself in other matters; in fact, to do so both broadens and helps him. The old idea that the practicing physician when not visiting his patients should be reading and informing himself from the books of his profession and should think of nothing else is not in conformity with the modern idea. It is well that he should interest himself in some science or subject akin to his own, or some other special study, which will divert his mind and make it fresher to meet the demands of his calling. Such diversion is really a mental rest. True, it should not be carried too far, but with proper limitation it is helpful and beneficial. Thus we see eminent physicians as authors on topics related or unrelated to their profession; as students of law and ordinances, as members of the legislature, as governors, and holders of other high civic offices.

It seems to me that one should resent the idea that a professional calling requires one to be indifferent to what is interesting his family and his neighbors, to the general interests of the community in which he lives, and particularly to his duties as a citizen. The physician, as well as all others, has his civic duties to perform, which should not be neglected.

A most natural sequence of a doctor's practice is an interest in sanitation and hygiene, sanitation having to do with the environment of man, and hygiene with his physical development. While the physician at the bedside is observing the fever or delirium or the racking pain of his patient, as he notes the anxiety and anguish of the family while the little one hovers between life and death, as he bends over the wasting form of the once strong man, and reflects on the financial distress and difficulties of ordinary existence facing those dependent on this man so stricken with disease, what more natural than that he should ask himself, could not this have been prevented? and that his mind should turn to thoughts of sanitation and hygiene? If the case is one of typhoid fever, he will naturally fear lest others of the family may become afflicted with the same communicable disease, due to the same cause; he will think of the dangers of contact and necessity of disinfecting all discharges, of the possible presence of a bacillus-carrier, and begin a mental study embracing the water and milk supplies, drainage and sewerage, soil pollution, and the need of screening against the typhoid-bearing fly, and the adoption of measures to prevent the breeding of flies.

If the case is one of malaria or yellow fever, for the protection of others, he will think of the mosquito and search for and destroy its breeding-places, whether they be stagnant pools or house rubbish such as old tin cans, which on their indented external surface may hold water so small in quantity as to escape ordinary observation, yet sufficient for the breeding of thousands of mosquitoes

If the case should be one of plague, he would search for insanitary conditions of house and stable favoring the breeding of rats and fleas which are the parasites of rats and which convey the plague from one rat to another and from rat to man. If the disease be uncinariasis, caused by the hookworm, which invades the intestinal tract either through the mouth or the skin of the lower extremities as the victim walks over infected grounds, and is discharged again in multiplied numbers with the alvine secretion, he will think of soil pollution, the chief cause of the prevalence of this disease, and the necessity of sanitary constructions to prevent it.

If the disease be tuberculosis, the great white plague, whose suppression is now engaging the activities of the whole civilized world, his mind will turn to the sanitation of the dwelling; to sufficiency of air space, sunlight and ventilation; to the prevention of flying germ-laden dust, and the disinfection or destruction of sputum.

TUBERCULOSIS AND PREVENTIVE MEDICINE

In view of the great public interest in this one disease, tuberculosis, and the relation which the private physician sustains to it through preventive medicine, it is pertinent to give it here a more than passing notice.

The awakening, both of the medical profession and of the general public, to the importance of this disease, to its fatality and undermining influence on human strength and prosperity, is one of the most notable features of the present century. Its curability and prevention have been demonstrated, and everywhere the popular mind is being aroused, and activities inaugurated and continued for its elimination.

An illustration of this fact may be observed here in Atlanta, where, in addition to other popular and municipal effort, there has recently been displayed a tuberculosis exhibition for the purpose of spreading knowledge and awakening an interest in the general antituberculosis campaign. This particular exhibit is one of a number which have been displayed in the last few months in Florida, Kansas, Nebraska, Missouri and Porto Rico, under the auspices of the National Association for the Study and Prevention of Tuberculosis. Like exhibitions have been held in Maryland, Texas, New York, Pennsylvania and in many other states.

Within the last three months 56 new associations have been organized for the prevention of tuberculosis, making a total of 273 such organizations with which the national association is in correspondence. Of thirty-nine state legislatures in session during the past winter, thirty had under consideration bills relating to tuberculosis, a majority of which gave promise of being enacted into laws.

In September and October last there was held in the city of Washington an International Tuberculosis Congress and exhibition which brought together the leading investigators and workers in this field from four continents. It was the most notable event of its kind in the history of the United States, a great world convention devoted to but one subject—one disease. The stimulating effect of this congress is felt to-day in crowded cities and isolated hamlets.

There has been increasing interest in the prevention and suppression of tuberculosis in this country since 1892, when there was organized in the city of Philadelphia, by Dr. Lawrence F. Flick, the Pennsylvania Society for the Prevention of Tuberculosis, the first or-

ganization of its kind in America. The movement has been actively carried on in a great many countries under philanthropic and governmental auspices.

Its importance from a hygienic and economic standpoint is demonstrable in many ways. Yellow fever, notwithstanding the many panics it has produced, has not caused in the United States, in the past 115 years, as many deaths as occurred last year from tuberculosis in this country. It is estimated that since the year 1793 there have been approximately 100,000 deaths from yellow fever; whereas tuberculosis is estimated to have caused 160,000 deaths last year alone. The mortality from tuberculosis is further emphasized when compared with the epidemic of bubonic plague in India, which has not, for the whole period since its first outbreak in 1896, caused as many deaths in that country in proportion to the population as were caused by tuberculosis in the United States in the same period. Statistics show that tuberculosis in the last four years caused more than three times as many deaths in this country as occurred in action, and from wounds received in action, during the entire period of the Civil War. The figures which sustain this statement are as follows: deaths from tuberculosis in the United States during the last four years, 640,000; deaths in action and from wounds received in action during the four years of the Civil War, 205,070 (federal, 110,070; confederate, 95,000).

I quote from an address delivered by Professor Victor C. Vaughan, of the University of Michigan, before the Tuberculosis Congress in Washington:

> Please do not understand from what I have said that I am a pessimist, for such I surely am not, but we must see and appreciate our weakness if we are to relieve ourselves of it, and grow stronger. This crusade against tuberculosis is the greatest work that man has so far attempted. We of this generation are starting it and those who come after us will, we hope, complete it. I certainly believe that the time will come when tuberculosis will no longer curse our race. How soon this time will come it would be folly to predict, for that depends on the intelligence and earnestness of the effort that is put into the work. The eradication of this disease is by no means solely the medical man's problem; it demands the combined intelligence and labor of all men who are interested in the welfare of the race, and the individual who regards it with indifference should find no place in our legislative halls, either national or state. To take the life of a fellow man wilfully or maliciously is murder, the greatest of all crimes; to do so through ignorance or carelessness is manslaughter. In effect it is the same as murder, although in guilt it may be less heinous. The great majority of deaths from tuberculosis are due to manslaughter, and this fact should be recognized. The man who carelessly or ignorantly expectorates infected sputum, which, after drying, may be inhaled and may infect another, is guilty of manslaughter. The same is true of the dairyman who sells infected milk, or of the owner who lets an infected house. It is essential that we recognize these truths before we can be successful in our crusade against tuberculosis. The man who would put arsenic in milk or drinking-water would be regarded by the law as either a criminal or a lunatic, and in either case he would be so dealt with that he could not repeat the offense. The man who sells milk or other food infected with the tubercle bacillus or other disease-producing germs is distributing a more deadly poison than arsenic, and he should be forbidden the continuance of such a practice. We need wise laws in order to restrict and eradicate tuberculosis, and their adoption and enforcement are sure to come as soon as the mass of the people see the matter in the true light.
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> Our state governments should place tuberculosis on the list of diseases dangerous to the public health, require that all cases be reported, and the local health authorities should see that the disease is not disseminated. I do not think that any medical man holds that the homes of the tuberculous should be placarded or quarantined, but the tuberculous individual should be minutely and carefully instructed as to the care that he must take with his excretions in order that he may not transmit the disease to others.

The foregoing words of Dr. Vaughan are strikingly impressive.

TUBERCULOSIS AMONG GOVERNMENT EMPLOYÉS

The government of the United States has taken some action with regard to this matter as it relates to its own employés. In an executive order of Feb. 28, 1906, President Roosevelt declared that the non-observance of certain rules by departmental employés should, in the discretion of the head of the department, be considered a just cause for separation from the service. These rules are as follows:

> 1. All persons in government employ are positively forbidden to spit on the floors.
>
> 2. Such persons (employés with tuberculosis) will not be permitted to use the public spittoons, but must provide themselves with individual sputum receivers, preferably of easily destructible material, and carry these with them on arrival and departure. They will be held strictly responsible for the disposal and destruction of their own sputum, so that no other person's health may be endangered therefrom.
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> 3. Such persons must provide their own drinking-glasses, soap and towels, and shall not use those provided for the general use.

TUBERCULOSIS AMONG IMMIGRANTS

Among the millions of immigrants who come to our shores, naturally there are many afflicted with tuberculosis. If allowed to enter the country and mingle with others in tenements and congested districts of our cities, these individuals would be a source of danger and would add many new foci for the spread of the disease. For this reason, all aliens suffering with the communicable forms of tuberculosis are refused permission to land. This applies to those having pulmonary, gastrointestinal or genitourinary tuberculosis. To guarantee against doing an injustice to any one, these cases must be diagnosed microscopically; that is, tubercle bacilli must be found in stained specimens made from the sputa or excretions of the alien. In cases presenting marked clinical signs, but in which the tubercle bacilli can not be found, the alien may still be debarred on the ground that he is suffering from a condition which may interfere with his earning a living and cause him to become a public charge. The medical examination of all immigrants is performed by officers of the Public Health and Marine-Hospital Service.

TUBERCULOSIS AMONG SEAMEN

With regard to seamen of the merchant marine, it is well known that the accommodations furnished sailors on merchant vessels are necessarily cramped and crowded, and in most instances poorly ventilated. When a member of a crew contracts pulmonary tuberculosis, he becomes a serious menace to others who occupy the same forecastle, unless unusual precautions are taken. Sailors are prone to ship on one vessel after another, remaining but a short time on any one. A consumptive sailor in this way may infect many forecastles and endanger the health of the sailors who occupy them.

To remedy this condition as much as possible, the medical officers of the Public Health and Marine-Hospital Service were instructed some years ago that whenever a consumptive sailor applied for treatment at a

marine hospital or dispensary the master or agent of the vessel in which the seaman last sailed should be notified, and whenever possible the forecastle or other apartment previously occupied by the seaman should be disinfected. This was done for the protection of other members of the crew.

Deep-water sailors, because of the nature of their lives, are prone not to form family ties. When these men contract a serious chronic disease, like pulmonary tuberculosis, they are apt to suffer in many cases for want of a home, and, in addition, are a greater danger to the community because of not having a fixed domicile. The government has obviated all this by taking on itself the medical care of its sailors and by establishing at Fort Stanton, New Mexico, a large sanatorium for consumptive seamen. At the present time there are nearly 300 consumptive sailors at this institution.

The sanatorium is located on a reservation covering thirty-eight square miles on a plateau in central New Mexico, at an altitude of 6,150 feet. Here many patients recover, and, of course, some die, as no distinction is made, in admission, as to the stage of the disease. The majority of the patients, however, improve to such an extent that the disease is arrested, and the seamen are able to take up some kind of work and become self-supporting, after, however, having been educated in the way they must live to remain well, and not to be a source of danger to others.

NEED OF INSTRUCTION OF THE TUBERCULOUS

A few years ago, desiring a brief rest without going too far from Washington, I went to the Great Falls of the Potomac—about twenty miles from Washington—and registered at the modest hotel on the Maryland side. Everything seemed to minister to my recreation—some fishing, but more particularly the scenery and interesting surroundings; the intake of the water supply of Washington; the rushing falls and huge boulders in the stream; the neighboring woods and the old canal with its locks and dams; the country store and the old-fashioned hostelry with its clean rooms and beds; the rough canal men and the country people—gave interest to my visit, which seemed to have no drawback to its pleasure, until, on the second day, I interviewed a man whom I had seen lounging around the premises, with the air of an invalid and a cough. I talked with him and found he had consumption, that he had come to this spot for recuperation, but that his home was not far away in one of the adjoining counties.

His country doctor had informed him of the nature of his disease, but on inquiring I found that no word of warning had been given him regarding the danger he might be to others; no advice or instructions relating to the disposition of his sputum, which, therefore—without thought or knowledge of the harm it might do—he had been disposing of recklessly everywhere. Here he was, poor man, unconsciously submitting others, myself included, to the danger of infection with the same disease.

Now, that man should have been instructed; some one should have told him, and should have told him promptly, not in a harsh way that would make him feel that he was necessarily a danger to his own people and to others, but in a sympathetic manner, at the same time explaining how easily the peril of spreading the disease could be avoided.

To this end, provision should be made for placing in the hands of every such person a small leaflet or even a card, explaining what the patient himself should do to prevent his conveying the disease to others—a disaster which he, himself, as well as those with whom he comes in contact, would naturally wish to avoid. Every doctor should have in his possession cards or leaflets of this character, whether they are provided by the state or municipal health authorities, by voluntary health organizations, or by the physician himself.

It is important that individual reseponsibility regarding this disease be emphasized. Every one should spread the knowledge of it, and persist until a public sentiment is established which will require of every one to contribute to the movement to wipe the disease out of existence. The simple but important rules should become a part of the common knowledge of the community, and their observance as much a habit as any other recognized rule or order of society.

The same feeling of respect and the same observance should prevail with regard to hygienic rules affecting this and other infectious diseases as now prevail regarding the well-known civic ordinances established for the protection of the community.

The same interest, the same patriotism, should be manifested as is shown by citizens in exercising the right of suffrage. The exercise of this right is simply an expression of a desire to take part in promoting the well-being of the community. How highly it is regarded is demonstrated, in both municipal and national elections, by the jealous care with which all our citizens, both of high and low degree, guard this, their sacred personal right. It is the essence of self-government, which in itself is the pride and glory of the present age and is illustrated nowhere and in no degree so vividly as by the great republic of the United States of America. This popular sentiment, this strenuous determination, to have an individual hand in the political welfare of the country, may well be extended, and naturally can be made to extend itself to the preservation of public health. Each individual must feel that it is his right to be protected from this aggressive disease—tuberculosis—and should be persistent in claiming this right.

SPHERE OF NATIONAL, STATE AND LOCAL PUBLIC HEALTH WORK

In the foregoing pages I have endeavored to show that the physician engaged in private practice must meet and know the principles and practice of sanitation and hygiene, the science of public health, and I now desire to show that his interest must be extended still further in this direction, and that he must of necessity acquire some knowledge of the laws and organizations in accordance with which the public health system is administered.

There are three divisions in the public health system of the United States, national, state and municipal, each having its own sphere, yet intimately related with the others. The states leave certain functions to the cities, exercising certain advisory and mandatory surveillance over them, and the nation bears an attitude similar in many respects toward the states.

In the matter of public health the question often arises how much shall be left to the states, how much shall be imposed on the general government? And here arises the old question as to police powers of the states and the restrictions imposed on the national government by the Constitution. There is evidently a growing sentiment that the national government should do far more than it is now doing toward the protec-

tion of the public health, and there is likewise a strong feeling that too much is expected of the national government, and that there is a tendency on the part of the state governments to allow, or to call on, the federal government for service which properly is imposed on the states themselves; and a willingness to surrender even states' rights for the sake of financial assistance. There is danger of an extreme view in each case, and it appears to me that as regards public health the limitations of the Constitution are the very limitations that the best policy would dictate. I do not admit that the limitations of the Constitution are as narrow as is claimed by some strict constructionists. Much may be done under the Constitution that at first blush seems impossible, but which under intelligent interpretation is possible.

On the other hand, measures evidently beyond the powers granted by the Constitution to the federal government would be unwise measures, weakening, as they would, the independence and self-reliance of states and municipalities, and cultivating a weak leaning on the national government, which would lead to a weakening of our national character.

As expressing one view of a proper division of public health work between the national and state governments, I quote from an editorial writer:

> The sanitary condition of cities and towns and the control of the influences which affect the health of the people are matters that come very distinctly within the police powers of the states. Regulations and restrictions for the protection of the public health can be best established and administered by state and local authorities, and the nearer their administration comes to the people affected the better. The subject may be neglected in some states, or they may be slow in appreciating its importance and providing for the sanitary well-being of their people, but that fact does not impair their authority or transfer it elsewhere. They may be dilatory or negligent in many things that the national government can not look after for them.
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> When it comes to dealing with contagious diseases brought from other countries the matter takes a different aspect. The enforcement of measures for preventing their introduction at our seaports, or over our borders, necessarily involves interference with foreign commerce. Vessels have to be detained, inspected and disinfected and passengers and merchandise have to be subject to regulations that concern the people and the interests of the country regardless of state lines. National jurisdiction has here an appropriate field, and is alone adequate to its requirements. Quarantine regulations affecting communication with foreign countries should be national and national only. The same principles may apply in some degree to protection against the transmission of infectious diseases from one state to another through the agencies employed in interstate traffic, as interference with those agencies pertains to the regulation of commerce between the several states.

In addition to the functions of the national government as outlined in the foregoing quotation, the government is engaging in many important operations quite within its proper sphere. Among these may be mentioned the enforcement of the law and regulations regarding the manufacture of vaccine, toxins and antitoxins; the law relating to pure food; it is engaged in scientific investigations of the cause of disease and other matters relating to public health; it publishes vital statistics, and disseminates information regarding health conditions in this and other countries; it publishes scientific bulletins on health matters, and its Public Health Service is by law brought into cooperation with the health boards of the several states.

The state boards of health are yearly increasing in power and efficiency, and no scheme of sanitary organization in the United States could be successful which should not include the state health organizations.

GROWTH OF THE PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE

The Public Health Service of the United States, under the Treasury Department, was established by act of Congress, by enlargement and change of name of the Marine-Hospital Service in 1902. It may be of interest to sketch briefly the origin and growth of this service. Beginning with 1789, Congress established marine hospitals at various ports of the country to encourage the merchant marine, and physicians were appointed by the respective collectors of customs, in charge of these hospitals. In 1873 the service was reorganized, the physicians made into a corps appointed by the Secretary of the Treasury after examination, with a supervising surgeon-general in Washington, appointed by the President. In 1889 the corps was placed on a still better basis, requiring appointment by the President and confirmation by the Senate. The care of sick and disabled sailors in hospital led to supervision of their sanitary welfare aboard ship, and as sailors and their ships are the usual carriers of infection from foreign ports to our shores, when the first national quarantine law in 1878 was passed, the responsibility for its enforcement was naturally placed, in the same law, on the Marine-Hospital Service. Assisting the states in the exclusion of epidemic disease under the first quarantine law, the service was naturally called on to aid in the suppression of epidemic disease which escaped the barriers, and in the performance of this duty the marine-hospital officers became experienced in enforcing sanitary measures and in the principles of sanitation. In the meantime, a laboratory was established for the scientific investigation of the diseases treated in the hospitals, which was extended subsequently to all contagious and infectious diseases and matters relating to the public health, and from this first laboratory has been developed by succeeding laws the present Hygienic Laboratory of the Public Health and Marine-Hospital Service.

For years the Marine-Hospital Service was engaged, under various acts of Congress, in the performance of public health duties quite apart from its original function, until finally these duties became so great and numerous and the care of sailors in hospitals relatively so small a matter, that Congress in 1902 changed the name to the Public Health and Marine-Hospital Service, and enlarged its scope in public health work. Today it has a corps of nearly 450 medical officers, 50 pharmacists and a total personnel of about 1,740. It treats annually about 58,000 sick and disabled seamen in its 22 marine hospitals and 120 other relief stations. It conducts the maritime quarantine of the Philippine Islands, Hawaii, Porto Rico and the United States. It has its officers in the ports of China, Japan, India, Europe, Central and South America, and the West Indies, to sign the bills of health of vessels, examine immigrants, and give general sanitary information. It inspects all arriving aliens, to enforce the immigration health laws, maintains a sanatorium for consumptives in New Mexico, a well-established institution for the investigation of leprosy in Hawaii; maintains the Hygienic Laboratory at Washington, with a personnel of sixty workers, for the investigation of disease and matters relating to the public health; and a Public Health

Bureau at Washington, with six divisions, through which the operations of the service, properly classified, are conducted by trained medical officers under the direction of the Surgeon-General.

RESPONSIBILITY OF THE PRIVATE PHYSICIAN

In the public health system of the United States, combining the national, state and local forces, the physician in private practice is an important factor. Indeed, he is the first unit, in that on him devolves a duty of reporting the facts that naturally first come under his observation. He has a direct responsibility to the state, in giving the notifications and making the reports required. He is the first to see and know the conditions and diseases which, at first local, may become afterward state or national in their importance. He should loyally support his state and local board of health.

In conclusion, I would say to the members of the graduating class: Do not be dismayed by the obligations, additional to those of your practice, which have just been indicated. At the beginning of a professional career, I know that the field of study, investigation and labor, opened up to the practitioner through the usual curriculum of a medical college, seems so large, so difficult to cover, that one is apt to be apprehensive as to acquiring all the information necessary in the several branches of medicine, and keeping apace with developments, and state medicine may seem an additional responsibility. But you have the advantage of youth and strength. Many years are before you. Your capacity and knowledge will grow with the increasing years. You surely will be able to master these principles of hygiene and sanitation, to become familiar with the public health laws and regulations, and to aid in their enforcement, thus adding to the dignity of your profession and the value of your lives to the common wealth; and will worthily fill the important place allotted to you in the resistless march of human progress.

Original Articles

CHRONIC CHOLECYSTITIS AS A CAUSE OF MYOCARDIAL INCOMPETENCE

REPORT OF THIRTEEN CASES

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It is said that one out of every ten adults has disease of the gall bladder and that one out of every thirteen has gallstones. If these figures are only approximately correct, there is certainly a remarkable discrepancy between the frequency of the occurrence and of the clinical recognition of chronic cholecystitis. This discrepancy is due partly to the ignorance of general practitioners concerning its frequency and partly to the obscurity of its symptoms. Yet when one's attention has been once directed to the subject, one is able to recognize certain symptoms which are very suggestive if not actually convincing.

Prominent among these is indigestion or stomach trouble, with or without more or less epigastric distress, distention or uneasiness coming on several hours after a meal and accompanied or relieved by eructations of gas. Not uncommonly these symptoms of indigestion occur at night, often waking the individual from sleep toward morning, and they are sometimes associated with palpitation or irregular action of the heart. It is not uncommon for this discomfort in the stomach to be relieved by the taking of soda, food or even a drink of plain water. As belching of gas is apt to follow the ingestion of these substances, the relief experienced is generally attributed to the removal of gas from the stomach. The gas is tasteless and odoriess as a rule.

Pain is not an essential symptom even when gallstones exist; and when the chronic cholecystitis is unattended with calculi there may be no history of pain whatever and even no tenderness except during and directly after an acute exacerbation of the gall-bladder infection. In some instances slight colicky pains are felt, and in two of my cases complaint was made of dull, intermittent pain below the heart. Attacks of "congestion of the liver" may be admitted, and at such times there is likely to be vague pain or tenderness in the region of the liver. In some cases also there is pain in the right shoulder, considered rheumatic, or in the back near the inferior angle of the right scapula, and Ewald's area of cutaneous hyperesthesia in the right back low down is generally discoverable.

There is, however, another point of interest in this matter of the symptomatology of gall-bladder disease; namely, the occurrence of disorders in the action of the heart, from arrhythmia and precordial oppression without dyspnea to demonstrable dilatation and incompetence dating usually from some attack of biliary colic or acute cholecystitis and thenceforth maintained by recurrences of the acute disturbance. This is shown by the case reports here narrated, the individuals having sought medical aid because of heart trouble, and, with but two exceptions, having no suspicion of anything being wrong with the gall bladder. Excepting in two cases in which outspoken attacks of hepatic colic were experienced, the symptoms referable to the heart overshadowed those pertaining to the gall bladder, and this viscus became an object of suspicion either on account of the complaint of "indigestion" or of facts in the anamnesis which directed attention to the gall bladder.

Without exception also in each of the cases reported, palpation detected a swelling in the proper location of the gall bladder which in most instances was shown by operation to be a Riedel's lobe. In nearly all cases, repeated and careful palpation was required before the swelling could be detected with certainty, and this was possible only after a more than usually pronounced attack of pain or indigestion. It was possible also at such times to perceive slight rigidity of the right rectus. The patient's color also was generally muddy or subicteric. There was not always a history of typhoid fever, while two patients gave a history of illness supposed to have been malaria, and some declared they never had been ill.

The cases to be reported number thirteen and have been divided into four groups in accordance with their clinical, not their pathologic, features. 1. In this group are five cases of pronounced cardiac incompetence showing considerable dilatation with arrhythmia and feebleness of heart's action with murmurs; in short, subjective and objective symptoms of serious heart disease. 2. This group comprises two cases in which there were attacks of pain that had been called angina pectoris or were of an anginoid character, and which attacks were followed by evidences of myocardial inadequacy. In

this group is included also one other case in which there was dull infracardiac pain, together with arrhythmia of the pulse and a moderate degree of dyspnea on exertion, both dependent on recognizable though not great dilatation of the heart. 3. In this group are embraced three cases of intermittence of the pulse of long standing and very intractable, but without dyspnea or other marked subjective symptoms of myocardial inadequacy. Two patients were much benefited by operation and thereafter enjoyed greater freedom from intermittence than by any previous lines of treatment. 4. This group includes two cases of valvular disease in which cardiac competence was destroyed either by outspoken attacks of hepatic colic or distressing symptoms thought referable to the stomach at first, but subsequently attributed to the gall bladder because of the recognition of a Riedel's lobe. A number of other cases could be reported, but are omitted because either not subjected to operation or not so plainly showing the signs of gall-bladder disease as to make its diagnosis certain.

CASE REPORTS

GROUP 1.

CASE 1.—*Patient.*—G. R., life insurance agent, aged 44, examined Nov. 12, 1903, on account of heart trouble, had suffered from a biliary colic two years before and been jaundiced for ten days. In March, 1903, he had experienced a second attack of colic and been jaundiced for three weeks but had not been operated on because of the state of his heart. All other illnesses were denied and habits had been good. The chief symptoms were dyspnea of effort and distress in the region of the liver.

Examination.—The only points of the physical examination worthy of note were the following: Icterus absent, temperature normal and urinalysis negative; accessible arteries not thickened, pulse intermittent and so arrhythmic that its rate was not recorded; the feeble apex beat in fifth interspace below left nipple and deep-seated dulness increased transversely from one inch to right of sternum to four and a fourth inches to left of the midsternal line; no murmurs, but all sounds very feeble and the second succeeding the first by too short an interval; below the right costal margin a tender, palpable swelling that extended downward the width of two fingers, while elsewhere the liver could not be felt. The diagnosis was made of cardiac hypertrophy and dilatation with inadequacy, due to the cholecystitis and hepatic colic, not to chronic myocarditis. Accordingly an operation was advised in the belief that it would not prove especially dangerous, if properly performed, and would remove the source of irritation which was preventing the restoration of cardiac competence.

Later History.—The subsequent history is interesting. After a period of much suffering from both heart and gall bladder the man at length went to Rochester, Minn., in the hope of an operation, but this being denied on account of the state of the heart I saw him again at St. Luke's Hospital in a very serious state of myocardial inadequacy, somewhat icteric and his gall bladder swelling, very tender and large. An operation was again urged but declined because of the apprehension occasioned by the unfavorable opinion previously received. In February, 1905, a letter received from him stated that, although his heart still troubled him, he was able to attend to business; and quite recently this man, now 50, was married for a second time and was reported actively pursuing his vocation, although still troubled at times by both heart and gall stones. Consequently it is believed that had his gall bladder been opened and drained when this was first advised he would have endured the operation, his heart been reinstated and years of suffering prevented.

CASE 2.—*Patient.*—T. C. H., policeman, aged 43, examined in June, 1904, on account of heart disease, gave the history of illness of ten months duration. Syphilis was denied and whiskey used to excess only during present illness. Two years previously patient suffered from chills and fever which, occurring again ten months previous to examination, was called malaria. The perspiration was of bad odor and there was heaviness in the pit of the stomach. Ten days later palpitation and dyspnea set in and six months before the patient was seen his feet began to swell; he went to Mudlavia, where he took but fourteen baths. He was then obliged to return home and take to bed; he changed from doctor to doctor without relief. In April the abdomen was tapped and fluid withdrawn.

Examination.—Present symptoms were dyspnea on slight exertion, cough, and scanty muddy-looking sputum, anorexia and vomiting, poor sleep on account of shortness of breath. The skin was slightly jaundiced and pitted on pressure over lower extremities to knees, pulse 84, irregular and of low tension, radial arteries slightly thickened, tongue moist and red, temperature 99.9 F., leucocytes 12,600, urine slightly albuminous, lungs negative, but heart dilated, as shown by absence of impulse and increase transversely of both absolute and relative dulness, which latter reached from 1¼ inch to right of sternum to 1 inch outside of left nipple, all heart sounds very feeble and the first at apex impure. The liver was palpable and in the right parasternal line below the costal margin could be felt a swelling of the size of a small fist tender to palpation and the right rectus muscle was tense.

Diagnosis.—The history indicated that the symptoms of heart disease first appeared about ten days after the onset of an illness supposed to be malaria, but as malaria, in my opinion, does not cause disease of the heart and on account of the findings, namely, an enlarged and tender gall bladder, icterus, slight febrile temperature and moderate leucocytosis, the opinion was expressed that the dilatation and inadequacy of the heart had been initiated by an acute cholecystitis and was maintained by what was probably an empyema of the gall bladder. The heart muscle was thought to have suffered irreparable damage and yet without removal of the disturbing element by opening and drainage of the gall bladder, a restoration of even a part of its old-time power was impossible, although even after an operation a recovery of compensation was questionable. Accordingly operative interference was advised.

Operation.—The recommendation was accepted and his physician at home performed the operation. From him it was learned that the gall bladder was found enlarged, thickened, white and distended with mucus and dark bile but without stones. Local anesthesia was used.

Postoperative History.—The man stood the shock of the operation well and for seven days was progressing finely, when suddenly the flow of bile ceased, his temperature rose, the heart grew still more feeble and death occurred on the eighth day after the operation. No autopsy was permitted, but I believe that the findings at the time of the operation substantiated the diagnosis in so far as the relation between the heart and gall bladder was concerned, although an empyema did not exist.

CASE 3.—*Patient.*—C. S. H., real estate agent, aged 53, was first examined in November, 1904, because of heart trouble and shortness of breath for the past two weeks. Habits were excellent and venereal diseases denied; he had had malaria twenty-five years previously and in June, 1903, pneumonia, following which severe attacks of abdominal pain, coming on three to four hours after meals and compelling the patient to lie on his right side with knees drawn up, yet without nausea or vomiting. The last attack of pain had been in June, 1904, and had been diagnosed as acute appendicitis by his physician, who had kept him in bed and on a strict diet which had been maintained up to the present time and been responsible for his loss of weight. His complaint was dyspnea of effort and indigestion characterized by formation of great quantities of gas.

Examination.—Marked emaciation and pallor but no icterus; pulse irregular and intermittent, varying from 88 to 104 per minute; arteries soft and veins not turgid; systolic blood pressure (Gaertner), 95 mm.; no edema. Urine showed a trace of albumin and a few granular casts but no sugar or bile. Temperature 98 F. but leucocytes 12,200. Right lung showed reflex retraction at base behind but no râles. Heart dilated, the total transverse diameter being six inches, impulse very feeble and first sound at apex weak with a faint soft murmur, while

at base all tones were feeble, the second pulmonic being somewhat louder than the corresponding aortic. Examination of the liver revealed a swelling that extended from the costal margin in right parasternal line to the level of the umbilicus and was sensitive both to palpation and percussion. The stomach was somewhat dilated.

Diagnosis.—This disorder was plainly serious myocardial inadequacy with dilatation of both ventricles and muscular mitral insufficiency, but the question of moment concerned the state of the heart muscle and the possibility of its restoration to a fair degree of function power. The history of pneumonia eighteen months before and the man's age rendered likely the existence of a chronic myocarditis. But inasmuch as the gall bladder complication appeared responsible for the break-down of cardiac competence and seemed militating against recovery an operation was recommended in the hope that subsequent rest and treatment might restore some degree of compensation.

Operation.—Accordingly the gall bladder was opened a few days later and was found to contain stones besides exhibiting the usual changes of chronic infection. The heart stood the slight shock of the operation and ten days subsequently was reported by the attending physician to be showing a little improvement.

Postoperative History.—Unfortunately this improvement did not last and when the man was examined three months later the dilatation and myocardial inadequacy were still very serious. Nevertheless he persisted in his attempt to do business, with the result that he overstrained his weak heart, was removed to a hospital for treatment, but to no purpose, and death took place in March, 1906.

CASE 4.—*Patient.*—H. C. S., manufacturer, aged 61, was seen in April, 1907, because of heart disease. Ten years previously he had had symptoms of glycosuria but not of diabetes and at length sugar had disappeared; seven years before the present illness an operation for perirectal abscess was followed by a perineal abscess that broke into the bladder; several years prior to the glycosuria some sort of trauma with internal injury. In November, 1906, he had a fall, succeeded two weeks later by numerous attacks of epigastric pain that eventually became constant, was accompanied by fever and kept patient in bed. In December, while sitting up in bed to take a drink, he was seized with a sudden sensation of something having burst in the abdomen and fell back in a state of shock from which he was aroused with difficulty. From this obscure illness convalescence was slow and never complete, so that when Mr. S. went south in February he had slight ankle edema and symptoms of cardiac incompetence; by end of March ascites, and a physician ordered rest in bed, cathartics and heart tonics; as soon as able to travel the patient returned home and I examined him.

Examination.—Symptoms were dyspnea on exertion, slight cyanosis, pulse regular and 96 to 105 at rest, systolic blood pressure 154 (Janeway), diastolic 80, radials moderately stiff, no fever, and appetite, digestion and bowel movements good, urine increased at night but without albumin. Physical examination, briefly stated, yielded the following: Heart dilated as shown by feeble apex tap 4½ inches to left and transverse increase of both superficial and deep cardiac dulness, the tones feeble and first at apex obscured by systolic murmur of maximum intensity over right ventricle; the second sound at apex doubled and aortic second tone intensified. Lungs were negative. The really interesting feature in this case was connected with the liver, which on superficial examination appeared enlarged from stasis. It was soon discovered, however, that the enlargement was strictly circumscribed and presented the shape of a swelling with convex upper surface and slightly uneven inner border that projected from the costal arch almost to the level of the umbilicus. This swelling was tender to palpation and by means of the tuning-fork could be differentiated from the body of the liver, which percussion showed of normal size and shape. Lastly, there was a right inguinal hernia.

Diagnosis.—Dilatation and incompetence of the heart, probably also some degree of chronic myocarditis, complicated by an intra-abdominal condition, thought to be a cholecystitis. It was stated also that the illness in the preceding fall with intermittent and afterward constant epigastric pain had been an acute exacerbation of an old gall bladder infection—that the sensation of something having burst in the abdomen and the resulting shock might have been due to rupture of the distended gall bladder, and that unless this complication were removed surgically restoration of cardiac competence was impossible.

Operation.—Accordingly a surgeon was called in who agreed in the diagnosis of chronic cholecystitis and concurred in the advisability of operative intervention. The consideration of the heart symptoms having developed during or directly subsequent to the acute illness in the fall gave hope that after removal of the abdominal complication myocardial adequacy might be regained. A week later the operation of opening and draining the gall bladder was done under ether. On incision of the abdominal parietes a clear, sticky serum gushed forth which coagulated speedily and the swelling collapsed. The gall bladder was then found, stitched to the abdominal wall, opened and drained. It was large, white, thick and filled with viscid almost black bile and no calculi.

Postoperative History.—A week later the pulse was of normal rate, the murmur gone and dilatation no longer demonstrable. Before long the man was going to his office but with the drain still in his gall bladder, and he had no further cardiac symptoms except for a short time when the flow of bile became checked. The pulse then became rapid but again fell to its wonted rate on re-establishment of the discharge of bile. In August he suffered a fall from a height of eight feet, which accident was followed by a return of the tumor and pain in the abdomen but without disturbance of the heart's action. Consultation with another surgeon resulted in a diagnosis of pancreatic cyst and a decision to operate. This was never completed, however, as death occurred on the table.

Autopsy.—This disclosed no cyst of the pancreas but a remarkable condition of the omentum. This was attached to the hernial sac and so twisted on itself as to have formed a pouch at its upper part. Into this pouch serum had transuded in consequence, probably, of constriction of the mesenteric vessels, and it was this localized ascites that created the swelling in the vicinity of the gall bladder.

CASE 5.—*Patient.*—J. B., marine engineer, aged 47, was seen in May, 1907, because of dyspnea and other symptoms, due, as he had been told, to heart disease. The only points in the history worthy of note were typhoid fever in youth and, ten years before the present illness, a severe abdominal pain relieved by a purge.

Physical Examination.—The patient's height was 5 feet 7 inches, weight 177 but normal 202 pounds; conjunctivæ subicteric; no edema, or fever; urine negative; pulse 107 and regular, radials slightly thickened; systolic blood pressure 112 and diastolic 75 (Janeway). There was no perceptible cardiac impulse and deep-seated dulness was greatly increased to left, reaching six inches to left of the midsternal line; sounds were all weak but clear and no murmur was audible. The chest and abdomen were negative. Questioned particularly as to other symptoms than shortness of breath, the man mentioned occasional pains in the lower chest in front which, beginning on the right side, extended upward and across to the left. The diagnosis seemed clear of cardiac hypertrophy with dilatation in consequence of chronic myocarditis and the patient was ordered to bed in charge of a physician in proximity to the man's temporary abode.

Course of Disease.—Treatment for the next two weeks seemed to be improving the condition of the heart, when suddenly, in June, the patient experienced acute pain in the region of the gall bladder, temperature rose to 103 F. with great acceleration of the pulse, marked tenderness below the right costal arch and rigidity of the rectus. Acute cholecystitis was diagnosed and an operation performed, the surgeon finding an enlarged enormously thickened and white gall bladder distended with sticky, black bile and mucus. But the significant feature of this case is that after the opening and drainage of his gall bladder the area of cardiac dulness became appreciably reduced in size and the man lost all symptoms of myocardial

incompetence. When last heard from a few months ago the man was following his occupation as chief engineer on one of the boats on our Great Lakes.

GROUP 2

CASE 6.—*Patient.*—Mr. McA., contractor, aged 73, seen in consultation May 16, 1907, because of angina pectoris, heart and kidney disease, gave the following history: He had considered himself well until three weeks ago, when one morning while sitting at his office desk, he was seized with a severe pain in the epigastrium and lower part of the chest. The patient arose, went into his cashier's room adjoining and asked to have a physician summoned. This doctor considered the pain due to indigestion and prescribed accordingly, but the pain did not cease for four hours. Symptoms of cardiac incompetence developed the day following and the family physician quite naturally regarded the attack as having been one of angina pectoris, and finding the heart dilated ordered the patient to bed. The only other illness in the patient's recollection had been thirty years previously and consisted of abdominal distress with fever and diarrhea. The symptoms were shortness of breath, especially at night, troublesome eructations of gas, urine scanty, showing a few fine granular casts but no albumin, temperature normal.

Examination.—The patient was in bed, breathing somewhat hurriedly and superficially, looked pale and thin; no edema; pulse 76 to 80 and frequently intermittent; systolic blood pressure 140 (Janeway) and diastolic 78, radials slightly thickened, veins negative. The heart-apex beat was distinct but feeble in sixth space five inches to left of the midsternum and relative dulness increased to one inch outside nipple; the first sound at apex accompanied by blowing systolic murmur and at base both second tones accented. The lungs were negative. The abdomen was thin, and below the right costal margin could be felt what seemed to be the liver. Careful percussion, however, showed the liver to correspond with the inferior costal arch, while below this line was a smooth, rounded body which, slightly tender, glided easily beneath the fingers with each act of respiration and by means of the tuning-fork could be differentiated from the liver. May 19 the patient had another slighter attack of pain in the hepatic region, and at my visit on the 22d the conjunctivæ were subicteric, the temperature was about 100 F., pulse more frequent and more irregular, heart's dulness still more increased, the murmur more intense, the liver congested and the swelling at its lower edge more easily palpable and unmistakably tender.

Diagnosis.—This was now clear and the opinion unequivocally expressed that the underlying cause of the trouble was chronic cholecystitis which had led to an attack of hepatic colic and not angina pectoris and had precipitated the myocardial break down. Degenerative changes in heart, arteries and kidneys were present no doubt, and on this account the gall bladder complication was preventing and would prevent restoration of compensation unless the gall bladder were removed by operation. This being hazardous, surgical counsel was obtained from three men of wide experience. The first was noncommittal; the second dismissed the case as purely medical; while the third coincided in the diagnosis already given and the view that although attended with great risk an operation afforded the only chance of the heart being restored to even a fair degree of comptence.

Operation.—The friends decided to incur the risk and on May 25 the gall bladder was opened under gas. This anesthetic was borne badly, but at the end of eighteen minutes was withdrawn, as the operation was almost finished. Such was the rigidity of the abdominal wall, however, that a little more gas was ordered, whereupon respiration ceased promptly and death took place in spite of vigorous efforts to revive the patient. As in the other case, the gall bladder was large, thick, white and filled with black, viscid bile. No calculi were obtained. The only consolation possible under the circumstances was the corroboration of the accuracy of the diagnosis regarding the part played by the cholecystitis in destroying the competence of a heart muscle already diseased and only requiring a biliary colic to overpower its potential integrity.

CASE 7.—*Patient.*—Mrs. H., housewife, aged 64, was seen in consultation May 22, 1907, because of great irregularity of the pulse and other symptoms of heart disease. She had had typhoid fever in childhood; twenty-five years before, when pregnant, she had been trampled on in a crowd, and this was followed by bloody vomiting but not abortion; seven years before the present illness a severe epigastric pain lasting two or three days and slighter pains at intervals ever since; during the past winter an almost steady distress in region of stomach and for past three weeks shortness of breath on exertion. The present illness began with severe epigastric pain, which, radiating into the chest, was though to be angina pectoris, especially as the patient had signs of mitral stenosis.

Physical Examination.—The patient was in bed, with rapid, feeble but regular pulse, rectal temperature of 101 F., a moderately distended, tympanic abdomen with marked tenderness and appreciable rigidity directly below the right costal margin. The heart showed a tapping apex beat, increased dulness, both absolute and relative, a short presystolic thrill and murmur ending in a faint systolic whiff heard with the thumping first tone. The diagnosis was made of acute infection of the gall bladder with gallstones, the pain having been a hepatic colic, not angina, and this state of things having broken down the compensation of a mitral stenosis of moderate degree.

Operation.—As there was danger of acute peritonitis as well as of irreparable injury to the heart an immediate operation was advised. This was consented to with reluctance and hence delayed until the following morning. Beginning peritonitis was discovered and, in addition, a large, thick gall bladder which contained pus and a single black stone.

Death occurred thirty-six hours subsequently.

CASE 8.—*Patient.*—J. A., hotel keeper, aged 48, sought advice of me Dec. 1, 1908, because of dyspnea, irregularity of the pulse and a dull infracardiac pain present most of the time. The history, obtained with much difficulty, was in brief as follows: Typhoid at 14 years of age; fifteen years ago congestion of the liver; six years ago, after a bicycle ride, severe pain in epigastrium with vomiting, lasting six hours and called gastritis; since that time frequent bilious attacks; in May, 1908, pain in the left thigh with nausea and a few hours later, while walking, pain in the left leg with limping, and later, while sitting still, a slight stroke which speedily disappeared, leaving no ill effects behind; a week subsequently pain in region of liver and jaundiced; previous to his experience in May the patient was in the habit of taking an early morning plunge from the wharf into the ice-cold river without any ill effect on his heart; since May had not been well.

Physical Examination.—Patient subicteric but well nourished; pulse 116 in dorsal decubitus and so arrhythmic that the rate could be determined only by auscultation of the heart; systolic blood pressure 155 (Erlanger), accessible arteries slightly thickened; temperature and urine negative. Heart dilated, apex beat in fifth and sixth interspaces five inches from the median line and deep dulness much increased transversely, from 1¾ inches to right of midsternum to 5¾ to left; many extrasystoles and over the body of the heart a feeble blowing systolic murmur, the pulmonic second tone accentuated. Abdomen corpulent, but below the ribs in the right parasternal line a body feeling like the liver extended downward in a convex shape for about two inches and from the right mammillary to the median line, but not especially tender to palpation. The diagnosis was made of dilatation of the heart with incompetence, probably a chronic myocarditis, the incompetence having resulted from an attack of the hepatic colic in May, cholecystitis having caused also an intermittent claudication.

Course of Disease.—This man subsequently returned to Chicago and received treatment by means of rest in bed, cardiac tonics and Nauheim baths. The heart became reduced in size and the murmur disappeared, while the tones grew stronger, but the dull infracardiac pain persisted, and from time to time, especially when this pain was most peristent, the Riedel's lobe could be made out with great ease. In February the gall bladder was opened under ether and drained. It was much thickened, enlarged, white and filled with mucus, dark-colored bile and sand. When the man went home ten days later his pain had disappeared entirely and his heart's action was slightly

less irregular. He felt perfectly well. A recent report states that when the drainage-tube was removed after six weeks and the wound closed, great abdominal distention and distress, weakness of heart and asthma occurred, necessitating reopening of the wound, on which mucus and bile escaped with great relief to symptoms. What the ultimate effect on his heart will be can not be predicted, but it is feared that the heart muscle has suffered irreparable damage.

In this case, as well as in one other of which I have notes, the pain felt below the heart was spoken of as in the heart. In this connection mention may be made of the circumstance that in a certain instance when a surgeon was exploring the gall ducts for stone the patient exclaimed, "Oh, that gives me a pain in my heart!" I also recall a case seen in consultation with Dr. McCaskey of Fort Wayne, in which besides myocardial inadequacy there were attacks of pain that bore a close resemblance to angina pectoris, yet may have been hepatic colic, since there was a history, together with local findings, that seemed to implicate the gall bladder. It is these considerations that have led to the classification of some of the cases reported in Group 2; namely, that in which there is pain simulating angina pectoris.

GROUP 3

CASE 9.—Mrs. B., aged 57, short and stout, consulted me in April, 1907, on account of a heart difficulty from which she had suffered for three years. She had a fever in the spring of 1904 on arriving in Italy from India, which illness was called malaria. Directly thereafter her heart began to trouble her and she was sent to Bad-Nauheim, where she took a course of baths under Dr. Schott. This course of treatments was repeated in the summer of 1905, and although improved thereby she still suffered from the same symptoms. No other facts of importance could be ascertained. Symptoms: persistent and annoying, irregularity of the heart, with a feeling of weakness and oppression in the region of the heart. This irregularity of the heart was especially bad when she was having indigestion, and at such times she had bad nights and was much exhausted. Naturally ambitious and energetic, she now could endure very little.

Examination.—The pulse was frequently intermittent, 80 standing and 70 in dorsal decubitus, systolic blood pressure 112 (Janeway). Percussion and palpation of the heart were impossible because of the mammary development, but the tones were feeble, especially the first, which in all areas was scarcely audible. The liver could not be palpated, but below the costal margin, right parasternal line, there was tenderness. The two points that attracted particular attention were the absence of dyspnea and the history of the cardiac symptoms having originated in or directly after an attack of supposed malaria. The want of dyspnea and the fall in pulse rate from the standing to the recumbent posture seemed to cast doubt on there being any serious degree of myocardial weakness, while the tenderness below the ribs and the belief that malaria does not cause heart disease directed attention to the possibility of the illness in 1904 having been an acute cholecystitis.

Course of Disease.—During the next six weeks Mrs. B. took a course of Nauheim baths and digitalis with slight improvement subjectively but no appreciable change in the pulse or heart sounds. At length in June she reported her heart as particularly bad because of an unusually bad night from indigestion. The pulse was more intermittent than had ever been noticed, but the point of special interest was connected with the gall bladder. Palpation of the liver had been made repeatedly but always with rather undecisive results. This day, on the contrary, it required but a moment to enable me to feel a smoothly rounded body projecting downward from the inferior costal margin about two inches, which was tender and glided easily down against the fingers with each act of quiet inspiration. The patient was now told that she had chronic cholecystitis, probably a sequel to an acute infection of the gall bladder three years before and that the irregularity of the heart was secondary to or greatly intensified by the chronic infection of the gall bladder. An operation was advised.

Operation.—On June 16 the viscus was opened and drained under ether. There was the usual finding of a large, thick, white gall bladder filled with tarry bile but, in addition, a quantity of sand and small stones.

Postoperative History.—Recovery was uninterrupted, but a little digitalis was ordered for a short time both during the days directly following and for a week or so in July. Not only did the patient improve in every other respect but the pulse soon became regular, and with occasional exceptions has remained so. During December, 1908, and until February, 1909, two months, the heart's action remained perfectly regular, but the patient then contracted an attack of grip, and at present writing, April 4, her pulse intermits but nothing like so frequently as it used to. Another noteworthy fact is that soon after the operation the heart tones became appreciably clearer and stronger and in particular the first sound previously almost inaudible became distinct. The patient herself is more than pleased with the result of the operation.

CASE 10.—*Patient.*—W. M. M., dealer in live stock, aged 58, was seen on July 8, 1908, on account of attacks of palpation with eructations of gas which awoke him in the small hours of the night, and for which he had been treated without benefit for six months. He denied dyspnea and all other symptoms except flatulence and also declared he had never been ill before.

Physical Examination.—This showed a healthy-looking man of medium height and 158 pounds in weight. The pulse was of variable rate in consequence of frequent irregularity and intermissions, but when regular for a few seconds and running at the rate of 78. Systolic blood pressure was 148 and the brachial arteries felt rather stiff. Temperature and urine were negative. Heart: The indistinct apex beat was in fifth space below the nipple and relative dulness was increased to the left to 4¾ inches from the median line. The first tone at the apex was somewhat valvular and over the body of the heart was accompanied by a feeble systolic murmur heard with especial distinctness during each strong beat following a feeble systole. These extrasystoles were at times frequent. The abdomen was negative excepting that below the ribs on the right could be felt indistinctly a resisting body seeming very like Riedel's lobe. There was no tenderness.

Course of Disease.—Treatment by means of digitalis, strophanthus, etc., and various remedies to improve digestion, including correction of the diet, was absolutely without effect on the heart. At length in August, after an unusually troublesome time with his heart, palpation revealed the Riedel's lobe or gall bladder, whichever it was, so plainly that the opinion was expressed that a chronic cholecystitis was responsible for the indigestion and behavior of the heart, and an operation was advised. This was done under ether on August 28, and a thick, white, large gall bladder filled with molasses-like bile but no stones, was opened and drained. Convalescence was uninterrupted, but for a while strophanthus was administered as the state of the heart muscle was doubtful and it was desirable to reduce what slight dilatation was present. At length the heart, previously intractable to all treatment, became regular and for several months gave the man no trouble whatever. Recently, however, this patient has returned, complaining again of his annoying heart symptoms. This time flatulence was particularly pronounced and intestinal toxemia was thought to be the cause of the disturbed heart action. At the present writing treatment addressed to this condition is steadily improving the rhythm of the pulse.

GROUP 4

CASE 11.—*Patient.*—Mr. A., bank cashier, aged 39, consulted me in October, 1908, because of irregularity of the heart's action, slight dyspnea on stairs and fatigue out of proportion to its cause. He thought these symptoms had existed since a certain occasion when he overstrained himself in swimming two years ago. In the winter of 1907 he had been threatened with typhoid fever and since then had been much troubled with gas on the stomach. Other illnesses were unimportant and habits were good.

Physical Examination.—A healthy-looking man; pulse 96 and very arrhythmic, systolic blood pressure 131 and diastolic

80, vessels negative. Temperature, skin, tongue and urine were negative. Heart: Apex beat indistinct in fifth space five inches to left of midsternum; deep dulness reached 5¾ inches to left and also slightly increased to right. The sounds were short and valvular and the first at apex was accompanied by a faint whiff most audible with the systole immediately succeeding an intermission. The abdomen was negative.

Course of Disease.—As the heart was dilated and serious incompetence seemed imminent, Mr. A. was advised to take a course of Nauheim baths, which he did with much benefit, his heart's area becoming reduced in size and the murmur disappearing with appreciable improvement in the strength of the tones. His indigestion was troublesome, however, and on one occasion he was given four quarter-grain tablets of calomel with soda to take that evening at half hour intervals. The next day he returned with a still more intermittent pulse, saying that half an hour following the first tablet and directly after the second he had been seized with cramps, vomiting and diarrhea which lasted well into the night and that slight colicky pains were still present. In the belief that these symptoms were not due to the calomel but to a possible gall-bladder trouble, careful palpation of the liver was made with the discovery of a small, tender swelling in the exact location of the gall bladder and extending about two inches below the costal arch. Two days later this swelling was less tender and less easily felt. By the end of the week all sensitiveness had subsided and the mass could be detected with difficulty. The precise degree of influence exerted on the heart by the cholecystitis, and whether or not it was responsible for the maintenance of the arrhythmia was a question hard to decide in view of the history of possible strain while swimming two years before. Nevertheless, an operation was recommended but was not performed owing to an adverse opinion given the patient in Rochester, Minn. This patient has since reported himself as pretty well, having but slight annoyance with his heart and no return of the gall bladder trouble.

CASE 12.—This as well as the next one illustrates the disastrous effect of gall-bladder disease on a heart already damaged by a valvular lesion, but for the sake of brevity will be given only in outline.

Patient.—In 1905 I was required to treat a man of 40 who had an unmistakable insufficiency of the aortic valve, probably of vascular origin. The complaint was more or less dyspnea and palpitation, but the man was always dwelling on his distress in his stomach. As the liver appeared greatly enlarged and sensitive to palpation the epigastric discomfort was thought due to hepatic congestion secondary to the cardiac disease.

Course of Disease.—At length, however, the man's gastric distress and inability to eat and digest food became so pronounced that I was led to examine the liver with particular care. To my surprise I at length was able to determine that the generally enlarged organ showed a contour and tenderness suggestive of a Riedel's lobe. On minute inquiry into the previous history it was ascertained that the man had suffered from symptoms highly suggestive of gallstone colic. A diagnosis of chronic cholecystitis was made and an operation advised, notwithstanding the serious state of the heart. The advice was heeded and an enormously enlarged and thickened gall bladder was opened and drained. It contained the usual tarry bile but no stones. The gastric symptoms were removed and the patient became able to eat, although the liver remained engorged and the heart inadequate. This latter condition better for a time, gradually grew worse and sudden death occurred some three months subsequent to the surgical procedure.

CASE 13.—*Patient.*—Mrs. F., Jewess, was in my care for about a year and a half suffering from dyspnea of effort due to mitral stenosis and occasional attacks of gallstone colic which latter she said she had for a number of years. During the fall of 1908 she was twice in a hospital.

Course of Disease.—During the first of these times the inadequacy for which she had been admitted was yielding satisfactorily to rest and the usual remedies when she was seized with one of her hepatic colics. Not only did the liver become greatly enlarged in the characteristic form of Riedel's lobe, but the heart dilated and became very rapid and arrhythmic, while the patient herself grew so hysterical and despondent as to be controlled with difficulty. As the gall bladder condition improved the associated cardiac and nervous symptoms gradually disappeared and the patient at length went to her home improved but still far from well. A few weeks subsequently she was again sent to a hospital where she went through a repetition of her former experience, but in an aggravated degree. The liver became much enlarged and underneath its lower margin could be felt a soft, exquisitely sensitive body believed to be the distended gall bladder. Her heart weakness became alarming. Tricuspid insufficiency developed, the legs became edematous, the woman was unable to take food, vomiting was frequent and her nervousness was almost uncontrollable.

A digitalis preparation was administered intravenously; morphin and codein and cathartics were prescribed freely without appreciable benefit. The condition became so grave that both the patient and her husband were told that without an operation, which under existing circumstances would be attended with considerable risk, a restoration of compensation was impossible. Thereupon the patient decided to go home and place herself under the care of a competent neighboring physician. This she did and I was informed subsequently by the attending physician that at length, with subsidence of the gall-bladder symptoms, the heart regained a fair degree of competence, so that the woman was able again to get about. His treatment had consisted essentially of that employed in the hospital, digitalis intravenously administered, etc. It is believed that the history in this case justifies the opinion that with permanent removal of the gall-bladder complication, the heart would have regained and retained its compensation, but without an operation will go to pieces again so soon as another gallstone colic is experienced.

The contemplation of the foregoing cases raises the queries as to what the explanation is of the effect of gall-bladder disease on the heart and why not all persons with chronic cholecystitis develop cardiac symptoms. I acknowledge frankly my inability to answer these questions, but with regard to the second I suggest that a previous state of the myocardium may be a determining factor. A healthy heart muscle may endure such a disturbing influence or may recover quickly from its derangement of function. A myocardium already the seat of structural disease, on the contrary, is seriously affected by conditions of strain or by illness which otherwise would prove harmless. Therefore, since chronic infection of the gall bladder manifests itself chiefly in persons at or past middle age, when presumably the heart muscle is no longer so able to resist attacks, there are furnished the conditions capable of producing the symptom-complex reported in these cases.

The explanation of the baneful effects on the heart of some cases of gall-bladder disease and not of others is hypothetical, and accordingly several theories may be advanced: (1) the circulation in the blood of bacteria or their toxins; (2) the depressing influence of bile constituents on the myocardium; (3) disturbance of the splanchnic circulation and secondarily of the systemic circulation and heart; (4) a reflex inhibition through irritation of the vagus. It is quite possible that a different explanation is applicable to different cases and, moreover, that there must be a predisposing cause residing in the heart muscle, that is, chronic myocarditis, in consequence of which the heart is unfavorably affected by influences which a healthy myocardium would be able to resist.

1. As regards the first explanation: The disastrous—even fatal—effects on the heart of acute cholecystitis, of which every practitioner of experience must have seen instances, is a direct result of the acute infection which is capable of setting up a parenchymatous myocarditis.

In the same manner, but, of course, very slowly, a chronic gall-bladder infection may induce a chronic myocarditis. This view seems borne out by the necropsy findings in a case which I have briefly mentioned elsewhere. A woman of 33, who had suffered for nine years with cholelithiasis, died as a result of an operation on her gall bladder. The autopsy disclosed pronounced coronary sclerosis and an extreme degree of brown atrophy of the heart. Careful search failed to reveal signs of syphilis or any source of infection than that for which the woman had been subjected to surgical interference.

2. The depressing effect of cholemia on the heart has long been known clinically and demonstrated experimentally. Its most common manifestation is in a bradycardia, but the investigations of Stewart and King, of which a summary has been graciously furnished me, prove a toxic action on the myocardium of the pigment biliverdin and a blood-raising power of the bile salts. Furthermore, the combination of biliverdin with an alkaline metal, sodium or calcium in gallstones, prevents its entrance into the circulation and, therefore, its toxic action on the heart. These facts explain the pernicious effects of chronic cholecystitis whenever there is mild but prolonged cholemia shown by slight icterus. Not only may there be chronic, though slight, toxic effect on the heart, but the increase of blood pressure caused by the bile salts may be a factor in gradually overcoming the functional integrity of an already degenerated heart muscle. Given on top of this an acute exacerbation of the chronic cholecystitis and we have all the factors necessary to acute myocardial incompetence.

3. The third hypothesis of irritation of the splanchnic is one which should not be ignored, but in the present state of our knowledge can only be hinted at vaguely. Nevertheless, since the splanchnics are the regulators of the circulation, it may be that disturbance of the intra-abdominal circulation may prove an added factor by unfavorably affecting an already weakened heart and to lead to its dilatation and incompetence.

4. Lastly, the disastrous effect on the heart of biliary colic is probably a reflex result of stimulation of the filaments of the pneumogastric distributed to the wall of the gall bladder. This is more likely, since the formation of gallstones tends to protect the heart from the toxic effect of biliverdin by preventing its absorption into the blood. It is likely also that reflex derangement of the heart is occasioned when soreness is present and not intense pain. It does not seem applicable, however, to cases in which the gall-bladder symptoms are indigestion and not colic, although it must be acknowledged that in many of these cases palpation of the liver reveals marked tenderness. In chronic cholecystitis, therefore, without colic or subjective distress, the harmful effect on the heart must be ascribed to the circulation in the blood of biliverdin and possibly of bacterial toxins, to which may be added the prolonged blood-raising influence of the bile salts. Then if to these be conjoined the disturbing effects of chronic indigestion, we have a variety of factors capable of setting up the cardiac disorders observed. That more or less structural damage to the myocardium ensues seems likely from the readiness with which arrhythmia returns on slight disturbing conditions as in Cases 9 and 10.

The question of operative interference in cases of the kind here reported is one that must be met and answered by the physician according to the exigencies of each case. That the cholecystitis should be recognized and drainage of the gall bladder instituted before cardiac symptoms arise is self-evident, and the cases are here reported in the hope that general practitioners may be impressed with the frequency of inconspicuous gall-bladder disease and probably may derive some aid in its recognition. Experience has convinced me that the opening and drainage of the gall bladder is attended with less danger, when properly performed, even though myocardial incompetence be present, than is non-interference. Did time permit, cases could be cited which would prove the peril to the patient and the culpability of the physician in leaving a chronically diseased gall bladder unoperated on when timely surgical intervention would have preserved the heart from irreparable damage and even spared life.

LITERATURE

A search of the literature, so far as that has been possible, with a view to discovering cases of the kind here reported, has not been very fruitful of results. Scattered references to the effects on the heart of acute and chronic cholecystitis and to the behavior of the heart during an attack of biliary colic exist in works devoted to the practice of medicine, but, with exception of a paper by Riesman and of certain cases therein cited, no report of the kind here made has been found. For example, Osler,[1] in describing the symptoms of biliary colic, says: "Palpitation and distress about the heart may be present, and occasionally a mitral murmur develops during the paroxysm, but the cardiac conditions described by some writers as coming on acutely in biliary colic are possibly pre-existent in these patients." Krehl,[2] also in an article on myocardial diseases, says what may be translated as follows:

> Disorders of the liver, especially gallstones, and also diseases of the genital organs, occasion at times motor or sensory disturbances on the part of the heart; palpitation, slowing or acceleration of its rate, precordial pressure, pain or anxiety, at times indeed stenocardiac attacks. Often these symptoms are united with heavy and difficult breathing.

And Sticker,[3] in his chapter on asthma, narrates a case of a woman whom he was called to treat for an asthmatic seizure that came on during an attack of gallstone colic and in whom the right heart was much dilated, both the asthma and dilatation disappearing after cessation of the pain. Doubtless similar passages might be found in other works.

In 1907 David Riesman[4] published a report of two cases seen by him which displayed a systolic murmur at the apex and increased cardiac dulness during or directly following a gallstone colic. He also cites the following cases gathered from the literature: Gangolphe,[5] 9 cases, 4 of cholelithiasis, 2 of emotional jaundice, 2 of hepatic cancer and 1 of cholangitis, in which cardiac murmurs occurred; Fabre,[6] 8 cases of jaundice, the heart affected in 5; Rendu,[7] in 1883, a case of hepatic colic in which systolic murmur developed, another case of colic and icterus in which there was marked arrhyth-

1. Practice of Medicine, Ed. 4, 1901, p. 564.
2. Von Marings: Lehrbuch der Inneren Medicin. Ed. 5, 1908, p. 371.
3. Nothnagel's Specielle Pathologie und Therapie, xiv, part 2, sub-division 2, p. 17.
4. The Development of Cardiac Murmurs During Attacks of Biliary Colic, THE JOURNAL A. M. A., May 11, 1907, xlviii, p. 1589.
5. Du bruit de souffle mitral dans l'ictere, Thèse de Paris, 1875.
6. Gaz. d. Hôp, 1877, p. 916.
7. De l'influence des maladies du cœur sur les maladies du foie et reciproquement, Paris, 1883.

mia, and another of catarrhal jaundice with gallop rhythm but no arrhythmia. Rendu also cites a case of Potain, which showed all the signs of tricuspid insufficiency without the recognized causes of that condition. According to Riesman, Tessier[8] classifies the cardiac disturbances due to gastrohepatic diseases as (1) intensification of the second sound, (2) doubling of the second sound, (3) a tricuspid murmur, and (4) complete tricuspid incompetence with venous pulse. Other writers who have dealt with the development of cardiac murmurs in cases of jaundice are Revillout[10] and Guéneau de Mussy, who, according to Revillout, was the first author to mention their occurrence. Quincke,[11] likewise mentioned by Riesman, recognizes a systolic murmur and intensification of the pulmonic second tone in icterus, but thinks them no more frequent than in other states attended with anemia.

In addition to the foregoing, I have discovered reports of cases of inflammatory lesions of the heart due to gall-bladder disease. Thus, Leva,[12] from Eichhorst's clinic at Zürich, reported two cases of ulcerative endocarditis resulting from disease of the gall bladder. The first was that of a 50-year-old multipara, who, after having suffered from icterus and gallstones, suddenly developed signs of endocarditis, from which she died in a short time. The autopsy showed gallstones in the common duct, expansion of the biliary passages and fresh thrombotic endocarditis of the tricuspid valve. The second case, in 1889, was that of a 44-year-old woman who was brought moribund to the hospital and died three days later. At the necropsy were discovered a fresh endocarditis developed on an old mitral disease, gallstones with dilation of the bile passages, abscess of the pancreas and meningitis. Leva cannot prove a definite connection between the disease of the gall bladder and the endocarditis, but any other etiologic factor for the valvulitis is wanting, and hence he concludes that in the first case the organism must have wandered from the gall bladder into the blood without leaving any changes behind, while in the second the pancreatic abscess and meningitis were undoubtedly secondary to the gall-bladder disease.

Leva failed to find similar cases in the German literature, but in the French found the following: Martineau[13] in 1866, Netter and Martha[14] in 1886—a case of multiple abscesses with gall gravel scattered along the intrahepatic bile ducts of the right lobe of the liver and an ulcerative endocarditis of the mitral valve. They believed that the two conditions were of common origin, since they identified the same organism in both situations and in the duodenum. These authors also cite reports by M. Luys (1864), Murchinson (1868), Jaccoud (1872), Roudot (1883) and Malibran (1884), but think the etiologic connection was not proven.

In 1893 C. Oddo[15] of Marseilles reported a case of a 40-year-old man who, having had gallstone colic for several years, suddenly developed a typical attack of biliary colic and jaundice; two days later a feeble arrhythmic pulse with signs of pericarditis from which he died a few days later. Oddo did not find similar cases in literature.

L. Bard[16] reported two cases of catarrhal icterus with bradycardia. In the first the pulse rate varied in the recumbent position between 48 and 52, but in the upright posture 84 to 88. In the recumbent position two jugular pulsations were seen to each cardiac systole and there was a doubling of the second sound, the third element being feeble and distant. In the second patient, the pulse in the dorsal decubitus was from 48 to 52, but in the erect posture 96. The heart sounds were the same as in the former case, but in the jugulars four pulsations were observed to each systole of the ventricles. The condition of the heart continued for several days after disappearance of the icterus.

Finally, the literature contains numerous references to the effect on the heart of the injection of bile into circulation, but, as these experiments are foreign to the class of cases here reported, they are omitted.

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8. Gaz. d. Hôp. 1878, p. 667.
10. Gaz. d. Hôp. 1878, p. 666.
11. Diseases of Liver, Nothnagel's Practice, English transl., p. 438.
12. Deutsch. med. Wchnschr. 1892, xvii, 228.
13. Arch. gen. de méd. 1866.
14. Arch. de physiol. norm. et ath. 1886, xiii, 7.
15. Péricardite complication de colique hépatique, Rev.-de méd., 1893, xiii, 829.
16. Semaine méd., 1902, xxiii, 15.

MANAGEMENT OF HEMORRHAGE FROM THE PARTURIENT CANAL *

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The successful management of hemorrhages of the parturient canal requires an intimate knowledge of their causes, unerring judgment, and immediate action for their prevention or control. It is important, therefore, to have in mind a well-developed plan of aggressive action in these emergencies; for on promptness and directness depend the safety of the mother and child.

These hemorrhages may occur before, during, or after labor. Those occurring before and during labor are either accidental or unavoidable. The accidental are due to the partial separation of the placenta from its normal situation in the upper segment of the uterus on account of some pathologic state of the uteroplacental union or traumatism. The hemorrhage may be concealed, visible, or both. The concealed may be dependent on bleeding between the uterine wall and the placenta, the margin of the latter remaining attached; to extravasation of the blood between the membranes and the wall of the uterus; to rupture into the amniotic sac; to stenosis of the cervix or its occlusion by the presenting part.

The unavoidable variety is due to the separation of a vicious implantation of the placenta in the lower segment of the uterus. It is designated lateral, marginal, or central prævia, according to its relative position to the cervix.

Hemorrhage occurring after the delivery of the fetus may originate in any part of the parturient canal; but postpartum hemorrhage proper is only from the placental site. It is primary when it occurs within twenty-four hours after birth of the child; it is secondary when it takes place at any time during the puerperium subsequent to the first twenty-four hours. While the true form is from the placental site, yet there are other cases in which the bleeding may originate from the cervix, vagina, or pelvic floor. Finally, one or more of these types may be combined.

FREQUENCY

Premature separation of the normally implanted placenta is not of common occurrence, and, in fact, its

*Read before the Medical and Surgical Society of the District of Columbia, March 11, 1909.

very existence, though affirmed by some of the earlier obstetricians, was denied by others. Altogether, not over 400 cases of this type have been reported in the literature of the subject. These figures, however, do not give an approximate idea of its frequency, as, no doubt, many cases are not recognized, and others are credited to the prævial variety. According to Holmes, it occurs about half as frequently as placenta prævia, or once in 500 labors.

Placenta prævia occurs, according to different writers, from once in 300 to once in 1,000 pregnancies. In 5,000 births at Columbia Hospital, there were sixteen cases of prævia, or one in 312.5 births.

Postpartum hemorrhage occurs in about 5 per cent. of all cases, and terminates fatally about once in 5,000 cases.

ETIOLOGY

The etiology of accidental and unavoidable hemorrhage is not definitely understood. The causes to which these abnormalities have been attributed are so numerous as to justify the inference that the real cause is unknown. As more than 70 per cent. of the cases occur in women who have borne children and the liability increases with each succeeding birth, multiparity and endometritis may be regarded as predisposing factors. The frequent association of nephritis with accidental hemorrhage is also of some significance. A short cord and traumatism may be direct factors in the production of hemorrhage from a normal placental site, while uterine myomata, malformation of the uterus and low implantation of the Fallopian tubes will help to explain some of the cases of prævia. Hofmeier explains the origin of the latter as the result of the fusion of the inferior pole of the reflexa with the decidua vera, while Strassman attributes it to defective vascularization of the decidua due to atrophic or inflammatory changes, making it necessary for the placenta to spread over a greater area in order to obtain its requisite supply of nutriment. The unusual size of the placenta in these cases, when we consider the development of the normal placenta as described by Peters, lends support to the latter theory.

While the pathologic factors of postpartum hemorrhage are not clearly understood, we know that anything that lowers the vitality of the system predisposes to atony of the uterus, and this would undoubtedly retard the contraction and retraction of its muscular fibers and thus favor hemorrhage.

Therefore, hemorrhagic diathesis, anemia, leucocythemia, nephritis and endometritis are regarded as predisposing causes. Cardiac, pulmonary or hepatic disease, producing obstruction or sluggishness of the maternal circulation, increases the liability to hemorrhage. Multiparity, precipitate labor, hydramnios and twin pregnancy, also favor postpartum hemorrhage. By far the most frequent cause of hemorrhage after birth is improper management of the expulsive and placental stages of labor. Hasty delivery, either by forceps, breech extraction, or version, may leave the organ unprepared for normal action. On the other hand, precipitate labor or protracted labor, by inducing inertia, may be attended by a similar result. The prolonged use of anesthetics, premature expulsion of the placenta, or a distended bladder, are likewise factors. Secondary hemorrhage is most frequently due to adherent placental tissue or the retention of blood clots.

TREATMENT

Unfortunately, owing to the paucity of our knowledge of the etiology of accidental and unavoidable hemorrhages, we are practically helpless to prevent them. Not so, however, with postpartum hemorrhage; for with proper management during pregnancy and labor, we can usually prevent it; and when it does occur, by the prompt use of measures at our command, we can, with almost absolute certainty, control it.

The management of hemorrhage from the normal placental site will depend on the amount of blood lost. When it is slight, rest in bed and the administration of sedatives, as in threatened abortion, may suffice. If the bleeding continues and the signs of collapse are pressing, the uterus should be emptied slowly or speedily, as the case demands. The cervix, according to the exigency, should be dilated either manually or with rubber bags, severed by multiple incisions, or vaginal Cesarean section performed, and the infant extracted with forceps or by version. After delivery, the uterus should be vigorously massaged to promote its contraction. If the placenta is not promptly expelled, it should be removed manually, the uterine cavity irrigated and packed with gauze to guard against postpartum hemorrhage. At the same time ergot should be given hypodermically further to insure uterine contraction. The vaginal tampon, which is so effectual in the treatment of prævia, has no place in the management of accidental hemorrhage, because of the danger of concealed hemorrhage. I have had two cases of accidental hemorrhage; both mothers recovered, but the infants perished before delivery.

In marginal and lateral prævia, rupture of the membranes permits the presenting part to descend and control the bleeding by compressing the placenta, and the labor, as a rule, terminates naturally. In this connection, however, the possibility of concealed hemorrhage must be borne in mind. Some years ago I had under my care a case of marginal prævia in a young multipara who had given birth to a number of children in rapid succession. The membranes ruptured spontaneously early in labor and there was a slight bleeding. Pains were tardy and feeble. Several hours after the onset of labor, signs of impending collapse were observed, and concealed hemorrhage was suspected. Examination showed the cervix dilated about two inches, but soft and yielding. Forceps were applied *in utero* and a living child delivered. Immediately following the extraction, more than a quart of dark clots were expressed from the uterus, which continued to relax, necessitating artificial expression of the placenta. Profuse hemorrhage followed, which was controlled by intrauterine irrigation and ergot hypodermically.

The tampon is a very valuable adjuvant in the treatment of prævia, in that it controls the hemorrhage, promotes softening and dilatation of the cervix, and at the same time enables the attendant to deliberately prepare, if need be, for immediate extraction.

Bipolar version, perforation, or separation of the placenta by the finger from its uterine attachment and afterward bringing down a foot, are the usual methods employed in central prævia. Bipolar version has reduced the maternal mortality of prævia, but as the child is used as a plug to control the hemorrhage its life is usually sacrificed. It was quite natural, then, that other measures would be evolved with the hope of reducing the high infant mortality while not decreasing the chances of the mother. Hence, abdominal Cesarean

section for placenta prævia has been advocated and performed from time to time for nearly twenty years. In my judgment, it has a limited but clearly defined field. It is particularly applicable in complete prævia in primiparæ with undilated cervix, and the results compare favorably with other methods of intervention. In 1905 I reviewed the literature of the subject and collected reports of 24 patients operated on by twenty-one operators. Seventeen of the cases were of the complete implantation, 2 lateral, and in 5 the variety was not mentioned. Fourteen patients were operated on according to the Sänger method, 7 by the Porro, and in 3 cases the methods were not stated. The majority of the patients were in unfavorable condition from repeated hemorrhages and were operated on after other methods had failed. Of the mothers who died, 3 succumbed to shock within twenty-four hours, 1 on the fourth day after secondary operation for obstruction of the bowels, and the fifth of septic peritonitis fifty-six hours after operation. Nineteen mothers and 11 infants recovered, a mortality of 20.8 per cent. and 54.3 per cent., respectively. Eight of the infants were either removed before viability or were dead before extraction, and 5 died from various causes in from several hours to four days after delivery. It is reasonable to suppose that the 5 who died after birth would have experienced the same fate after delivery *per vias naturales*, or might have perished after delivery, though certainly their chances of life were increased by the operation. These statistics are yet too small to formulate any fixed rule for guidance regarding the absolute and relative indications of Cesarean section for placenta prævia; these can be determined only by future experience.

Miller[1] has treated 14 cases of the central variety by preliminary ligation of the uterine arteries. His technic is to ligate the uterine artery on each side through the vagina, and then, having controlled the hemorrhage, he proceeds slowly to deliver. Two of his patients were so profoundly anemic, when first seen, that they died a few hours later, but the other 12 made good recoveries. In only 4 of the 14 cases was there any evidence of fetal life; in 3 of these the children were born alive, but all died prematurely within forty-eight hours. Miller asserts that the operation is simple, performed in some cases without anesthesia, does not decrease the possibility of future child-bearing, controls hemorrhage, allows the operator to proceed slowly and carefully to dilate the cervix and empty the uterus. He also states that the ligation prevents postpartum hemorrhage. He states that, while the fetal mortality may be slightly increased, there should be no maternal mortality except from infection. The method is ingenious and is an effective one in the treatment of placenta prævia, but, as in the older methods, the rights of the child are ignored. I have treated 7 cases of placenta prævia, 2 occurring in the same patient. One of the mothers died. Three of these cases were of the central variety, in which all of the infants were dead before the cases came under observation.

Many of the predisposing causes of postpartum hemorrhage can be overcome, and others at least mitigated, if treated during pregnancy. Some, however, can not be removed, and these may give much concern during the second and third stages of labor. The anemias, toxemias and leucocythemia are particularly prone to cause obstinate postpartum hemorrhage.

1. Miller, Harold A.: Am. Jour. Obst., 1908, lviii, 1047.

Whether to delay a rapid labor or to facilitate delivery in a protracted case in order to avert subsequent hemorrhage, is often difficult to decide.

Unquestionably, the most frequent cause of postpartum hemorrhage is the improper management of the third stage of labor, through neglect, or want of knowledge of the principle of contraction and retraction of the uterine muscular fibers which act as Nature's ligatures in controlling the uterine vessels, favor the formation of thrombi in the uterine sinuses, separate and extrude the placenta. Disregard of this important function of the uterine musculature is liable to be attended by grave consequences.

Every student and nurse should be taught at the bedside the method of grasping the fundus of the uterus, as proposed by Credé, for placental expression. No attempt should be made to deliver the placenta until the fundus rises to the level of the umbilicus, indicating that it has become detached from the uterine wall. At least a half-hour should elapse before expressing the placenta, unless there is actual uterine relaxation or hemorrhage. This allows the uterus to rest and prepare itself for the completion of the third stage. When the placenta is adherent, or if there is retention of clots, the fundus should be grasped in the palm of the hand, with the fingers on the posterior and the thumb on the anterior, and at the height of a contraction pressure made in the axis of the pelvis. If this fails to expel the placenta or clots, it may be necessary to introduce the hand into the uterus to remove them. But care must be exercised not to puncture the wall. In an emergency, bimanual compression, with one hand in the vagina pressing the cervix upward and grasping the fundus and forcing it downward against the symphysis, will effectually check the hemorrhage and allow time for preparing the intrauterine douche and subsequent tamponade. The placenta is sometimes retained and inverted, particularly if traction has been made on the cord. If it can not be expelled by uterine compression, the index-finger should be passed above the inverted edge, hooked into the placenta, and then slight traction will be sufficient to remove it.

I have not infrequently had to deal with postpartum hemorrhage of greater or less severity, and several of the cases are worthy of mention. The first occurred in a multipara who was attended by a midwife. I was summoned about two hours after delivery and found the patient in collapse. Examination showed the fundus uteri to be at the level of the umbilicus, and the uterus contained about a quart of clots. The débris was removed manually and further hemorrhage prevented by intrauterine irrigation and ergot hypodermically. The second case, that of a multipara, was also under the care of a midwife. When I reached the bedside, the patient had been delivered and was having a severe hemorrhage. Examination revealed a partially adherent placenta which was quickly peeled off with the finger and removed, and the uterus douched and packed. The third occurred in a case of Cesarean section complicated with inertia. After the extraction of the child, the uterus collapsed like an empty bag, and there was a marked hemorrhage. For a time it was thought that the Porro operation would be necessary to control the loss of blood. But the liberal use of salt solution, together with compression and gauze packing, finally checked the bleeding. All these patients required stimulants and hypodermoclysis to counteract shock; but recovered after protracted convalescence.

In secondary postpartum hemorrhage, like the primary, preventive treatment is the most satisfactory. If the third stage and the puerperium are properly managed, this complication can usually be avoided. The direct treatment consists in completely removing placental débris or clots and securing complete uterine contraction.

One of the most alarming cases of secondary hemorrhage with which I have ever had to contend was in connection with a case of blighted ovum. When I reached the patient, she was blanched and almost pulseless. Free stimulation and hypodermoclysis were given and the uterus packed. The patient's critical condition made it necessary to defer the removal of the mole until the following day. The acute anemia yielded slowly to the treatment and the patient had to be sent to the seaside to promote recovery.

Injuries to the cervix, vagina and pelvic floor may be greatly minimized by careful attention to the mechanism of labor, retarding the passage of the child in rapid labors and avoiding undue haste in instrumental and operative deliveries. Hemorrhage from laceration of the cervix should be controlled, preferably by suture, and all tears of the vagina and pelvic floor, no matter how slight, should be closed immediately to guard against subsequent hemorrhage or infection.

After the control of the hemorrhage, anemia and shock will demand careful attention. Heat, stimulants, opiates, salt solution, administered intravenously, hypodermically or by rectum, should be employed according to the requirements of the particular case. Strychnin and ergot are of signal value in uterine hemorrhage; the former for its stimulating effect, and the latter on account of its specific action on the uterus, in reinforcing its contraction and thus insuring more complete occlusion of the uterine vessels.

In conclusion, owing to the want of knowledge of the cause of accidental and unavoidable hemorrhages, the mortality from such sources, even in the hands of the skilled and experienced obstetrician, is high. Postpartum hemorrhage and lacerations of the parturient canal, on the other hand, are among the most amenable of obstetrical complications, but require an intimate acquaintance with the proper procedure under such conditions. My reason, therefore, for bringing to attention a subject so familiar to all is not its frequency, but the emergency of the situation which demands early recognition, prompt decision and action, in that it involves the life of the mother and the child, and as regards the physician himself, his professional reputation.

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The Relation of Necrosis of Fatty Tissues and Arteriosclerosis to Diabetes Mellitus.—L. Bleibtreu (*Arch. f. ges. Physiol.*, cxxiv, 52), in connection with his work on diabetes, observed a case of advanced diabetes mellitus in a man aged 39, associated with extensive fat necrosis in the region of the pancreas, in the mesentery, in the costal and diaphragmatic pleura and especially in the duodenal serosa. There were no necrotic changes in the tissues of the pancreas itself. In accord with Pflüger's observations, Bleibtreu advocates as a tenable hypothesis that the extensive fat necrosis around the pancreas and duodenum had materially damaged or destroyed the nervous connections of these organs, producing as a consequence diabetes mellitus. Similarly in a case of diabetes with associated extensive arteriosclerosis in the pancreatic and abdominal arteries, Bleibtreu sees extensive disturbance of the visceral nerves with resulting diabetes.

PAIN AND POTT'S DISEASE, WITH ESPECIAL REFERENCE TO BACKACHE *

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The term "backache" is one which is frequently employed, and often very loosely. By "backache" the laity mean any "misery" or discomfort, located anywhere between the foramen magnum and the gluteal folds. As most backaches are situated below the diaphragm, however, this part of the anatomy is usually meant when backache is spoken of outside the profession. While backache is at times a valuable symptom, the indefiniteness which is so often associated with it makes it misleading to both the public and the physician. The large number of kidney-cures (many of which contain as much as 40 per cent. alcohol), which are so conspicuously advertised, tells plainly to what mischief it may lead. Many a benighted individual, by mistaking the ache over the upper sacral region, very common in neurasthenia or fatigue, for an indication of Bright's, doubtless often induces an incipient nephritis in kidneys which were normal before the exhibition of the "cure" from which he has sought relief. I believe that the number of backaches dependent on lesions of the kidneys is considerably less than we have in the past been disposed to think. A case I will cite shows that the physician also may misinterpret the significance of backache, and illustrates the great need of caution in diagnosing the significance of pain symptoms generally.

First Attack.—On July 28, 1908, I found A. H., a tall, lean Afro-American, in his thirty-sixth year, suffering with excruciating pains in his left hypochondriac and left lumbar regions. The thighs were flexed on the abdomen and the patient was doubled up on his left side between hot bricks and hot-water bottles, wearing a facies indicative of acute pain and distress. The pulse was regular, full and tense, temperature normal. The attack had come on suddenly, with some nausea at the onset. The pain radiated to the left lumbar region and left groin. The abdomen muscles were rigid over the painful area and there was tenderness on pressure, particularly over the region of the kidney both in front and behind. There was no history of painful or blood-colored urine. The only previous history of any moment was that, following an attack of what had been called grip, the patient had for a year been below his previous standard good health. The patient gave an indefinite account of attacks of pain similar to the present, experienced during childhood.

Course of Disease and Subsequent History.—Two ¼ gr. doses of morphin given hypodermically brought relief and the attack subsided. An examination of the urine revealed a clear amber fluid of 1015 specific gravity, showing a small trace of albumin and a few white corpuscles. Blood examination showed no increase in the leucocytes. Tenderness over the left kidney continued after the attack and the organ felt enlarged to the palpating hand. The urine was freely voided after the attack of colicky pain. A provisional diagnosis of renal or ureteral calculus was made.

Two weeks later an attack came on precisely similar in character to the one just described, but there was no abatement of the pain, except under large doses of morphin, until six days later, when an exploratory operation was performed by Dr. Acheson Stewart at the Mercy Hospital. A thorough examination of the kidney, its pelvis and ureter, failed to discover stone or other pathologic condition than a moderately enlarged organ with a shallow-fissured surface. Radiography had previously shown no shadow of a foreign body, but we had assumed that, if present, its texture was of such nature that a shadow could not be observed. A very slight leucocytosis was present before the operation. There followed a speedy con-

* Read before the College of Physicians, Pittsburg, April 22, 1909.

valescence from the operation, with cessation of pain crises for two months. At the end of this time some weakness of the back was still complained of and the urine showed a few leucocytes and doubtful red cells. Ten weeks after the operation and again at twelve weeks attacks recurred like the one first described. A course of salicylates was now followed by relief from pain for two months but more or less invalidism persisted. Then there set in a continuous, very severe pain in the muscles of the back in the lumbar region and toward the right hip joint behind. This resisted all efforts at successful treatment—antirheumatic, antisyphilitic, antineuritic and antineurasthenic—when, after a month the pain centered entirely in the right hypochondriac and right lumbar regions. The patient was again placed in the hospital, where, on suspicion and a history of an ancient penal sore, large doses of potassium iodid were prescribed. Under three days of this medication the pain shifted to the right thigh, knee and right leg (the anterior border of the tibia)—these areas claiming first one and then another, the location of greatest severity from day to day. An important difference was now noticed for the first time in the temperature chart; a previously normal temperature began showing an evening rise of about one degree. We believed that a tuberculous focus had been stirred into activity by the potassium iodid and were about to attempt a verification of this by a von Pirquet test when, with a rather sudden focusing of the pain to the right of the lumbar vertebræ and the appearance of a bulging, tender mass at this point, our interesting and varied trail of diagnosis was brought to an abrupt close. The exploring needle established the already unmistakable diagnosis of a tuberculous abscess, the process having undoubtedly existed for a long time and given rise to the varied manifestations of pain already described.

Janeway has called attention to persistent lumbago as a symptom of importance in masked Pott's disease; this was truly conspicuous in my own case. The radiating pains and painful areas alluded to may have arisen from compression involvement, through inflammatory exudates on the roots of the spinal nerves, as they emerged from between the vertebræ. The pain locations and steady progression from above downward leads one to think this probable. A colleague has since related to me an experience almost identical with the above. In an adult farmer, after six months, a mass presented in the right lumbar region. In neither his case nor my own was any spinal deformity noticeable. Tenderness over some of the spinal vertebræ had been noticed by me, but its significance misinterpreted. Spinal pain following jarring movements or twisting of the spinal column (symptoms of Pott's disease) were disregarded until the diagnosis was already apparent.

I have given the above case in some detail because of its valuable suggestions in the study of pain symptoms, and because I am convinced that the above experience is not an uncommon one in such obscure cases of spinal caries. The symptom of pain was throughout the most conspicuous feature. While a valuable symptom when rightly interpreted, pain in this instance repeatedly diverted our attention from important signs which would have given an earlier diagnosis. The case was especially characterized by backache, this giving rise to three mistaken diagnoses: calculus, rheumatism and neurasthenia. Backache is an incident in so many affections that a few words regarding it seem appropriate at this time. Taken alone it is generally of little value. Indeed, it may prove a positive hindrance. In the lumbar region especially we must think of fatigue pain from overexertion, anemia and neurasthenia. The backache of flatulence and loaded colon must be thought of, particularly in women. In kidney lesions the value of backache has been overstated in nephritis, as it is probably of significance only in the acute processes; in other forms of kidney pathology—floating kidney, lithemic, perinephritic and tumor conditions, though present at times, it plays no positive part in diagnosis. Backaches which are symmetrically placed are, of course, of far less diagnostic significance than those which are unilateral. Schmidt, in his valuable treatise on pain, calls attention to this, as also to the tenderness on pressure found on the right side in appendicitis with retrocecal abscess, hepatalgia and cholelithiasis: on the left side in gastric ulcer, perisplenitis and pancreatic lesions. "The demonstration of the alimentary modification of backache is of importance, since it occurs in ulcerative processes of the stomach or large intestine. In these as well as in disorders of the colon, for example, carcinoma, the pain often occurs within even a few minutes after the ingestion of cold fluids or solid food." Chronic prostatitis is apt to be overlooked as a cause of backache. W. C. Bryant, in a recent paper,[1] emphasizes this fact, and offers an explanation, in the light of Henry Head's brilliant researches, in the intimate relationship existing between the pudic nerve, from which the prostate receives its spinal fibers, with the roots of the sacral and lumbar plexuses. This prostatically caused backache leads to diagnoses of sciatica and lumbago and at times simulates renal colic so closely that nephrotomy has been performed for stone.

While speaking of referred pains, it is well to remember that what is true of the prostate is true of the various internal organs. A well-known physiologist[2] tells us:

> Under normal conditions *cutaneous* pains are projected with accuracy to the point stimulated. Pain arising in the internal organs, on the contrary, is located very inaccurately. . . . Head especially and others have shown that the different visceral organs have, in respect to reflected pain, a more or less definite relation to certain areas of the skin. Thus we have pains arising from stimuli acting on the intestines, located in the skin of the back, loins and abdomen, in the area supplied by the ninth, tenth and eleventh dorsal spinal nerves. . . . those from the heart in the scapular region, and so on. The explanation offered for this misreference is that the pain is referred to the skin region that is supplied from the spinal segment from which the organ in question receives its sensory fibers, the misreference being due to a diffusion in the nerve centers. As Head expresses it:
>
> "When a painful stimulus is applied to a part of low sensibility in close central connection with a part of much greater sensibility the pain produced is felt in the part of higher sensibility rather than in the part of lower sensibility to which the stimulus was actually applied. Another notable fact in this connection is the occurrence of the condition known as allochiria. When from any cause one or other of the cutaneous senses is depressed in a given area, stimulation in this region may give sensations which are referred to the symmetrical area on the other side of the body, or, if this also is involved, it may be referred to the area next above or below in the spinal order."

It should be of great value to bear these physiologic facts in mind when we are dealing with obscure conditions of pain.

The valuable observations of Goldthwait have established the important fact that many of the severe and chronic backaches, especially of women, are due to sacroiliac disease. He has further shown that backache often dates from the time of some operation, generally on the pelvic organs, when, owing to a failure to support the back with cushions, during the operation, a

1. Bryant, William Cullen: The Symptomatology of Prostatitis, THE JOURNAL A. M. A., March 6, 1909, lii, 754.
2. Howell: Text-Book of Physiology, p. 267.

tremendous strain is thrown on the sacroiliac joints, often greatly increased by assistants on either side of the patient bearing most of their weight on the patient's thighs. The joints are left badly sprained and at times chronically inflamed. In the same way, improper methods of dress, by inducing abnormal bodily posture, with its consequent embarrassment to the viscera, doubtless is an etiologic factor of importance in many cases of obscure backache. This question of posture is of vastly more import than I am able at this time to suggest in its bearing on various pains and aches, to say nothing of its influence on the general economy of the body.

The acute fevers, appendicitis and other conditions, often accompanied or ushered in with backache, have other such definite pathognomonic symptoms that little importance attaches to this feature in such diseases.

The pain from uterine affections is most often referred to the upper sacrum—"a dragging sensation, generally referred to the brim of the pelvis posteriorly" (Kelly), being the complaint of that most common of all gynecologic ailments, retroflexion. Diseases of the ovaries, testicles and rectum, as also excessive venery and pelvic inflammations, may direct pain to the sacral region. Speaking of the pains of pelvic inflammations, Kelly makes the statement, which it seems to me good philosophy to follow generally, where pain is concerned, that:

> Inflammatory pain has a definite habitat. . . . The pain of inflammation is a fixed point; it is never in one place to-day and then at some remote part of the body to-morrow, one day in the shoulder and the next in the foot or calf of the opposite leg. . . . It is a safe working hypothesis to conclude that a patient who complains of a definite pain and who from day to day and week to week is definite in her complaint as to the character and seat of the pain, has some gross lesion.

It has been my aim to deal with those pains occurring in the lower dorsal, the lumbar and sacral regions—the commonest seats of backache. And it has manifestly been impossible to dwell on more than a few of the more typical examples. Schmidt, in his discussion of lumbar pain, says:

> After excluding lesions of the musculature or fascia, such as lumbago and diseases of the spine, like spondylitis, osteomalacia, etc., there is a wide range of possibilities in which nearly all the abdominal organs compete, including particularly the female generative system.

Some discredit has, I think, been attributed to Head's observations on the incidence and distribution of referred pain, by losing sight of the important fact that actual pain is not always experienced, but, "according to the intensity of the visceral stimulus, actual pain may be experienced, or there may result a state of hyperesthesia or hyperalgesia which manifests itself by an increased susceptibility to stimuli, so that contacts which would ordinarily evoke only sensations of touch now give rise to actual pain" (Schmidt). The observation that counterirritation applied over these cutaneous areas may result in relief of the pain and the underlying lesion throws a new light on the results, at times appearing to crown the arbitrary methods peculiar to osteopathy and other counterirritant curative agencies.

CONCLUSION

I believe that Pott's disease would be much more frequently and earlier diagnosed if its initial manifestations, of which pain in the form of backache is often conspicuous, were looked for and recognized.

Backache is of diagnostic value chiefly when unilateral and when guardedly controlled by some accompanying facts of diagnostic importance.

Familiarity with the work of Henry Head on the subject of pain, especially of referred pain, will often be found of the greatest help in reaching a correct and often a difficult diagnosis.

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THE CLINICAL INDEX OF THE THORAX ASSOCIATED WITH PULMONARY TUBERCULOSIS *

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Until very recently almost all text-books on medicine and physical diagnosis have described the thorax associated with pulmonary tuberculosis as flat, and even now some of them persist in this. For example, this statement appears in a recent edition, "The paralytic or phthisical chest is abnormally small, long and flat." This is a curious survival of a medical fallacy which apparently grew up simply because in the past no one had measured any considerable number of such chests. Most of them do appear to be flat, it is true, but taking measurements on a few will show that in most cases the flattening is not real and the appearance is an illusion. This is produced by the shoulders being displaced more forward and downward than normal, which makes the anterior surface of the chest appear to be displaced posteriorly—the type commonly called "round-shouldered" or "hollow-chested." There are two factors which tend to produce the displacement of the shoulders in this manner: (a) a more nearly round chest than the normal, and (b) relaxation or deficient development of the shoulder-girdle of muscles.

It remained for Hutchinson,[1] while engaged in a developmental study of the human thorax, to measure twenty tuberculous chests which he found to be more nearly round than the average normal chest. This he reported in 1897, and subsequent investigation convinced him that the average tuberculous chest is not abnormally flat, but is, on the contrary, abnormally round.

Measurements of the diameters of the chest are made on an imaginary horizontal plane passing through the junction of the fourth costal cartilages with the sternum. Dividing the anteroposterior diameter by the transverse diameter gives the ratio (usually expressed as a percentage) which the former bears to the latter, and is called the "clinical index" of the chest. Several thousand measurements taken at the Yale gymnasium and in the German army[2] place the average, normal, adult clinical index at 70 per cent., or 70 as it is usually expressed. There is evidently chance for a considerable degree of error in the procedure, as it is impossible to specify definite landmarks at which the measurements should be made, because of the varying degrees of tilting of the ribs found in different individuals. On the normal skeleton such a horizontal plane intersects the spine of the seventh dorsal vertebra, but this may occur

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* Read before the Section on Medicine of The New York Academy of Medicine, April 20, 1909.

1. Hutchinson, Woods: Some Deformities of the Chest in the Light of Its Ancestry, THE JOURNAL A. M. A., 1897, xxix, 512.
2. Hutchinson, Woods: Is the Consumptive Chest Flat? THE JOURNAL A. M. A., 1903, xl, 1196.

at the sixth or the eighth in abnormal chests. At the midaxillary line the plane passes through the fifth interspace in normal chests, but it frequently intersects the fourth or sixth interspace in tuberculous chests. Errors also arise because of variability in the thickness of the integument in different individuals, and because of unequal amounts of pressure placed on the calipers in making the measurements.

Hutchinson's first series of 20 cases[1] of pulmonary tuberculosis representing all stages of the disease gave an average index of 78. He subsequently reported 350 cases collected by him from various observers which showed an average index of 79.7. Of these, 40 were of his own which averaged 79.5; 42 cases in the Brompton Hospital (England) averaged 79.6; 75 cases collected by Colbeck of London averaged 80.3; 42 of these were in the first stage and 14 were women which averaged 84.3; White of Boston had 35 cases, with an average of 77.9, of which 10 were women averaging 78.3; Evans and McHugh[3] of Chicago had 107 cases averaging 80.8, and Abrams of San Francisco had 35 cases averaging 78. Bessesen[4] has independently reported 21 men with incipient tuberculosis who gave an average of 74.2, and 6 women, also in the incipient stage, averaging 75.2.

This report is based on a study of 1,022 measurements made on tuberculous patients in the Bellevue Hospital Dispensary and the Cornell University Medical College Dispensary. About one-half of them were made by various physicians in the Bellevue Hospital Dispensary, and the remainder by myself. As the results obtained by the others almost exactly agree with my own, the element of personal error seems to be eliminated.

This series of cases occurred in several races and many nationalities, including both sexes and all ages from 8 to 84 years, in all stages of the disease. The average clinical index of all the cases (1,022) is 75.98. In order to remove all possibility of error from including normal infantile chests, I have excluded all under 20 years of age, leaving 929 patients aged 20 years or more, which gave an average index of 76. This is somewhat lower than the averages noted by other observers, except Bessesen, whose results closely correspond with mine. The difference is, in some instances, because the measurements were taken at the level of the nipples instead of at the junction of the fourth costal cartilages with the sternum, as done by Bessesen and in this series of cases. The highest index observed was 100. The patient was a woman, aged 44, who gave a history of cough for three months and was in the incipient stage. There were no signs of emphysema, except that her anteroposterior and transverse diameters were each 22 cm.

While the average clinical index of tuberculous chests is greater than normal, not every such thorax, by any means, gives a high index; 245 (24 per cent.) of my cases were below 70. This fact greatly limits the value of such measurements in the diagnosis of pulmonary tuberculosis. Finding a high index in an individual case may increase the suspicion of tubercle infection, yet the value of the evidence is so slight that it can have very little weight. The lowest index observed was on a man, aged 39, who was in the second stage. His transverse diameter was 27.5 cm. and his anteroposterior 15 cm., giving an index of 54.4.

A considerable number of cases show indices which are exactly, or very close to, normal. Taking, for example, variations between 68 and 72, inclusive, I find that 219 (21 per cent.) come within these limits. There were, however, only 83 cases (8 per cent.) which were below 68, while 720 (70 per cent.) were above 72.

Sex is practically no factor in modifying the indices of tuberculous chests, as 808 males averaged 75.93 and 214 females averaged 76.16.

The question whether this increased index is the result of tuberculosis naturally arises. Hutchinson and Bessesen both concluded that it was not, and my findings tend to confirm this. If it develops because of changes in the lungs it is reasonable to conclude that the more extensive the pulmonary lesion the greater the resulting change in the thorax. Separating my cases into stages of the disease gives the following result:

Stage.	No. of Cases.	Average Index.
I	231	75.82
II	637	76.04
III	154	75.97

Though the average indices of the second and third-stage cases are slightly higher than that of the first-stage cases, the difference is so slight that it may be disregarded. The increase in index, then, is not in proportion to the extent of the pulmonary lesion and is, therefore, probably present before the lesion has developed in the lungs.

Classifying the cases by decades of life results as follows:

Decade.	No. of Cases.	Average Index.
1	2	84.50
2	91	74.40
3	311	74.62
4	354	74.43
5	190	80.50
6	63	77.82
7	10	77.40
8	1	79.00

The higher indices after the fourth decade are probably accounted for by the emphysema which normally develops with advancing years.

Some of the cases showed all of the signs of emphysema and consequently gave high indices. It was impossible, however, to exclude them, as one can not clinically decide how much is hypertrophic emphysema and how much is compensatory, having developed secondary to the tuberculous process. It is also unfair to exclude all indices above a certain point as being wholly due to emphysema, as some of the highest noted were on patients giving no signs of it; yet the fact remains that if it were possible to exclude all of those cases in which hypertrophic emphysema existed the average index of the series would be considerably lessened, certainly not above 74.5, which is the average index of the cases in the second, third and fourth decades, 756 in number.

What, then, is the cause of the abnormal relations of the diameters of the chest which exist in three-fourths of the individuals who later develop pulmonary tuberculosis? Hutchinson,[1] by a study of comparative and developmental anatomy, concluded that it was due to an arrest of development, and his conclusion seems to be well founded. With only two exceptions (whales and bats), all mammals below the anthropomorpha have chests which are deeper than they are broad; for example, horses, dogs and cats. They assume the horizontal position and are quadrupedal. It is evident that the chest best suited to their necessities is one which gives a maximum of room for expansion of the lungs without

3. Med. Exam. and Prac., 1902, xii, No. 10.
4. Bessesen, W. A.: Variations in the Ratio of Diameters of the Normal Chest at Different Ages. The Form of the Phthisical Chest, THE JOURNAL A. M. A., 1905, xlv, 2003.

compression of the heart and great vessels, and at the same time allows free movement of the forward limbs in running. This the deep or high-indexed chest gives. When, however, the forward limbs are not used for locomotion, but for climbing, swinging, defense and other lateral movements, the deep chest restricts the freedom of such motions, and the animal is better served by one which is more nearly round.[5] The anthropoid apes are examples of this class; they assume the semierect position and in them "the thorax is rather broad than laterally compressed."[6] In man, as has been shown, the thorax is normally flattened anteroposteriorly. Thus we see that in general as the mammalia ascend in the scale of development their chests become more flattened. The apparent explanation for the nearly round chests of whales and bats is that, as their anterior limbs are no longer used in ground locomotion, forward and backward movements, but laterally in swimming and flying, respectively, such a chest is best suited to their needs.

An examination of the human chest from fetal to adult life is of interest in this connection. At the fourth month of fetal life the chest is considerably deeper than it is broad—the lower mammalian type. During the later months the anteroposterior diameter relatively decreases until at birth the chest is practically round[7]—the anthropomorphal type; and after birth it gradually flattens out until the normal index of 70 is reached at about the eighteenth year. The period of most rapid change is during the first six years of life; and at puberty the index is about 80. It is evident, then, that each human chest in its development has gone through the same stages with respect to its diameters as has the human type in its ancestral development.

Having in mind the above, and that the type of chest in which tubercle infection most frequently develops is the same as the normal human chest at puberty, it is a fair conclusion that the typical tuberculous chest is one which has been arrested in its development at or about puberty. Bessesen[4] believes that the lack of development is principally in the transverse diameter, the anteroposterior becoming about normal. High-indexed chests have been shown to be common among paupers and the insane,[3] and a study of the literature and photographs leads me to believe that such chests may also be found associated with idiocy, cretinism and chondrodystrophy. High-indexed chests, then, are frequently associated with various forms of so-called degeneracy, which are really conditions of maldevelopment.

It has been suggested that the degree of abnormality in the diameters may have some influence on the prognosis of pulmonary tuberculosis, and Hutchinson[8] states that in 31 successive cases, of 16 patients who did badly the average index was 80.2, while 15 that did well averaged 74.6. My observations regarding this have not been sufficiently extensive to warrant a conclusion, though a few cases have shown results which lead me to believe that it may be true.

If high-indexed chests predispose to pulmonary tuberculosis, it is possible to lessen this predisposition by exercises which tend to produce an increase in the transverse diameter; such as climbing, swinging by the arms and movements laterally from the body. It also creates the presumption that it may not be best to prescribe for patients with pulmonary tuberculosis exercises which tend to develop deep chests.[9]

5. Hutchinson: Studies in Human and Comparative Pathology, 1901, Chapter v.
6. Huxley: Anatomy of Vertebrate Animals, p. 402.
7. Holt: Diseases of Infancy and Childhood, 1908, p. 24.
8. Hutchinson, Woods: Discussion on Dr. Bessesen's paper, THE JOURNAL A. M. A., 1905, xlv, 2007.

CONCLUSIONS

1. The typical tuberculous chest is more nearly round than the normal chest.
2. The increased index precedes development of tubercle infection in the lungs. It is due to an arrest of development at or about puberty and predisposes to pulmonary tuberculosis.
3. Abnormally high-indexed chests in children should be corrected by proper exercises.

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9. Med. Rec., 1905, lxvii, 645.

CHLOROFORM—THE IDEAL HEMOSTATIC IN PULMONARY HEMORRHAGE

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In spite of the great advance made in medicine during the last half-century, the treatment of pulmonary hemorrhage remains practically the same as at the time of Galen, with the addition only of a number of the newer drugs which do not seem to materially improve the solution of this vexed question. The therapeutics of this frequent complication in pulmonary tuberculosis is still based entirely on clinical experience, which in the main is unsystematic and haphazard. Morphin, atropin, ergot, hydrastis, lead acetate, stypticin, adrenalin, calcium chlorid, gelatin, nitrites, magnesium sulphate, and a host of other drugs used either singly, in combination, or in rotation, are doled out to the patient with more or less disappointment until Dame Nature, in spite of the drugs and the deranged digestion resulting from their employment, comes to the sufferer's rescue and by her *vis medicatrix* brings about the formation of a blood clot at the bleeding point.

The lot of a patient afflicted with pulmonary hemorrhage is, indeed, pitiful and his aspect at once evokes compassion. Compelled to lie flat on his back without even a pillow under his head, enjoined from changing his position, or at times even his clothes, no matter how irksome or oppressive, forbidden to turn his head or utter a word, subjected to the inevitable ice-bag, which occasionally leaks and chills him to the bone, stuffed with cracked ice in lieu of food, given frequent hypodermic injections, the patient must needs look very forlorn and think of naught but his impending doom. Nor is the position of the attending physician an enviable one, harassed as he is by anxious relatives and uncertain as he must be as to the results of his treatment.

In a previous paper[1] I made cursory mention of the successful use of chloroform in the treatment of pulmonary hemorrhage. Since that time I have continued my experiments with the drug and have given up one by one almost all the above-mentioned medical agents, limiting my treatment even in very severe hemorrhages to chloroform only. I am happy to report most excellent results from the use of chloroform in nineteen

1. Clinical Observations on Pulmonary Hemorrhage, THE JOURNAL A. M. A., March 13, lii, 883.

cases of pulmonary hemorrhage, two of which ordinarily would have been regarded as probably fatal.

The routine treatment has always been uncertain and empirical because of the fact that the bleeding point is not accessible and therefore can not be reached directly by hemostatics. Our aim, therefore, must be to bring about a blood clot in an indirect manner. This may be achieved in one of the following ways: (1) by reducing the force and rate of the heart beat; (2) by reducing the blood pressure; (3) by reducing the respiratory movement.

Now the effect of chloroform on the circulation is chiefly to depress the vasomotor system, causing an extraordinary fall of blood pressure. Complete vascular relaxation ensues, facilitating the passage of the blood from the arteries into the capillary network and veins. The patient is, so to speak, bled into his own vessels. There is also some cardiac enfeeblement and dilatation, which likewise contributes to the fall of blood pressure. Chloroform has also a depressant effect on the respiration, because of the lessened supply of blood to the respiratory center.

As chloroform produces coagulation of the blood *in vitro*, it is possible that in some cases its action in the body is aided by direct contact of the vapor with the bleeding point.

In chloroform, therefore, we have all the requirements for an ideal hemostatic. It lessens the heart action, reduces the blood pressure and diminishes the respiratory movement. It acts promptly and efficiently and, what is more, it leaves the digestive tract intact.

The patient being placed in a semirecumbent position, from 2 to 4 c.c. of chloroform are dropped on the usual inhaler, or wad of cotton, and held near the nostrils of the patient. The hemorrhage will cease within five or ten minutes. During the following twenty-four or forty-eight hours the patient will be bringing up blood clots. The inhalation of 15 to 20 drops every hour is continued for a few days. Ammonium chlorid with small doses of codein is given internally every four hours. The ammonium salts favor expulsion of retained secretions, whereby we hope to avoid an aspiration pneumonia and the codein will prevent excessive coughing. It is also a good plan to administer a teaspoonful of magnesium sulphate three times daily to remove excrementitious matter which, when retained in the blood, will stimulate the vasomotor center and raise the blood pressure.

In the limited number of cases in which I had the opportunity of using chloroform the results have been all that could be desired. Being fully aware of the paucity of material on which this study is based, I hope that a more extensive trial by the profession at large will bring out more fully the value of chloroform in pulmonary hemorrhage.

Antituberculous Substance in Tuberculous Glands.—Dr. A. Fontes (*Brazil-med.*, 1908, xxii, No. 40) offers the following conclusions derived from his studies *in vitro* of the tuberculous glands of guinea-pigs: 1. There exists in the tuberculous glands of guinea-pigs a substance capable of reducing the number of tubercle bacilli in a given emulsion. 2. This substance does not exist in normal glands. 3. The maximum effect of this substance is exercised after 120 hours' contact; when it has reached this it ceases. 4. The addition of a larger amount of extract of tuberculous gland extract, after the appearance of the action, does not cause a new diminution of the number of bacilli. 5. This substance is not reactivated by the addition of fresh serum from a new guinea-pig.

ISOHEMOLYSINS AND ISOAGGLUTININS OF HUMAN SERUMS, WITH SPECIAL REFERENCE TO CANCER

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In 1892 Maragliano[1] directed attention to the fact that the blood serums of patients afflicted with various diseases exerted a destructive influence on the blood corpuscles of healthy individuals, and also on the corpuscles of pathologic cases and set free hematoidin. He expressed the opinion that the reduction in sodium chlorid in the blood in different conditions of disease was a factor in the solution of red cells. This appears to be the first observation on isolysins of human serums.

Ehrlich and Morgenroth[2] demonstrated that the blood serums of goats that had been immunized by homologous blood corpuscles contained isolysins, the serums of the immunized goats being hemolytic for the corpuscles of other goats.

Von Dungern,[3] on the other hand, found that the serums of guinea-pigs that had been immunized with the tracheal epithelia of cattle was not only destructive to the tracheal epithelia of the latter, but also exhibited an hemolytic influence on the blood corpuscles of cattle.

Landsteiner,[4] in 1890, showed that human serums often agglutinated human corpuscles. He found this phenomenon of agglutination especially marked in the blood of diseased individuals.

The first extensive clinical application of the phenomena observed by Maragliano and Landsteiner was made by Ascoli,[5] who examined seventeen normal persons and ninety-seven patients for isohemolysins and isoagglutinins. He employed in his technic a mixture of equal parts of serum and of blood corpuscle suspension. He used a 2½ per cent. suspension of blood corpuscles for the hemolytic reaction and one-half of this for the agglutination reaction, the serums for the latter being employed in different dilutions. His controls consisted of suspensions of the blood corpuscles in salt solution.

He found the agglutinating power of the serums of healthy individuals hardly observed in a higher than a 1 to 20 dilution of their serums, while in pathologic conditions it was often found in much higher dilution. In the examination of normal bloods, hemolysis was in most cases *nil*. In a very few he had observed a trace of solution and in rare cases a slight solution of red cells had occurred, as indicated by the rose color of the fluid after sinking of the cells.

In the examination of the serums of pathologic cases with relation to hemolysins, he found negative results with 5 cases of chlorosis, 2 of infection with *Anchylostoma duodenale*, 1 of abscess, 3 of acute rheumatism, 3 of exudative pleurisy, several of bronchitis, several of acute and chronic gastritis, 2 of lead-poisoning, 1 of acute and 2 of chronic nephritis.

On the other hand, he found strong isoagglutinating and isohemolytic properties in the serums of two patients with carcinoma of the stomach, a probable Addi-

1. Maragliano: Verhandl. d. xi Cong. f. inn. Med., Leipzig, 1892; Deutsch. med. Wchnschr., 1892, xviii, 411.
2. Ehrlich and Morgenroth: Berl. klin. Wchnschr., 1900, p. 37.
3. Von Dungern: München. med. Wchnschr., 1899, xlvi, 1128.
4. Landsteiner: Centralbl. f. Bakteriol., 1900, xxvii, 356.
5. Ascoli: München. med. Wchnschr., 1901, xlviii, 1239.

son's disease, and a multiple pneumococcus infection. He examined chiefly cases of pneumonia, typhoid and tuberculosis.

In tuberculosis he had observed the serums able to dissolve erythrocytes and also to agglutinate them in a greater dilution than did normal serums. He also noticed marked isolytic properties of the blood serums of pneumonia patients. He states that isoagglutinins and isolysins are not to be found constant in the diseases mentioned, and that it was advisable to allow serum to act on the blood corpuscle suspension of different individuals as the isolysins are not active against the erythrocytes of every one.

From the experiments of Bordet, Ehrlich and Morgenroth, von Dungern, Ascoli, etc., it was evident that inoculation with the cells of an homologous or heterologous species, or, as might be expected with a tumor growth, would give rise to the formation of isolysins in the immunized individual or animal.

Weil[6] observed this peculiarity of the serum of tumor dogs for erythrocytis of normal dogs. He examined a number of patients suffering from cancer, etc., and observed the same phenomenon.

Crile,[7] Blumgarten[8] and Whittemore[9] have also reported on this peculiar property of the serums of patients suffering from cancer, tuberculosis, etc., the technic employed by them being practically the same as that recommended by Landsteiner, Ascoli, etc. Blumgarten, as had been recommended by Landsteiner, used the washed corpuscles, without salt solution, as Maragliano had stated in his communication that among other factors the decrease of sodium chlorid in the serum of diseased patients had something to do with their dissolving red blood corpuscles.

In order to determine whether or not the hemolytic reaction had any specific value in the diagnosis of disease, we examined the bloods of a number of individuals. Some of these were healthy adults, others were suffering from cancer, typhoid, pneumonia, gastric ulcer, etc.

We found on completion of our work that our observations coincided in many points with those of Ascoli. We had not made any effort to estimate quantitatively the agglutinin content of serums: we did, however, observe a definite relation to exist between isolysins and isoagglutinins to which Landsteiner[10] had referred conjecturally in his first communication on isoagglutinins.

Among the seventy cases examined, we tried nine normal persons against each other for isoagglutinins and isohemolysins.

Landsteiner[11] divides individuals into three main groups by means of isoagglutination, namely: (1) those whose corpuscles are not agglutinated by the serums of Groups 2 and 3, but whose serums agglutinate the corpuscles of these groups; (2) those whose corpuscles are agglutinated by the serums of Group 3 and whose serums agglutinate the corpuscles of Group 3; (3) those whose corpuscles are agglutinated by the serums of Group 3 and whose serums agglutinate the corpuscles of Group 2.

According to this classification for agglutination, 4 of the normal persons belonged to Group 1, 4 to Group 2, and 1 to Group 3. In 4 the supernatant fluid showed a faint pinkish tinge, one tube showing a considerable trace of solution. In these tubes agglutination of corpuscles had occurred. We did not notice isoagglutination of the strictly homologous corpuscles. In none of the tubes in which isoagglutination had not occurred was any trace of hemolysis present.

Among the pathologic cases examined by us were 22 of cancer, mostly of the stomach, uterus and breast. In 13 of these, or 59 per cent., we found isohemolytic serums, some hemolyzing the corpuscles of cancer patients. Of 8 cases of tuberculosis, 3 showed the hemolytic reaction, 1 hemolyzing the corpuscles of another tuberculous patient. We did not observe the reverse hemolysis in tuberculosis referred to by Crile.

Of 5 typhoid patients, 2 gave a strong hemolytic reaction, 1 of these hemolyzing the corpuscles of another typhoid patient as well as of a normal person.

Of 5 pneumonia patients, of whom 1 was convalescent, the serums of 2 showed a strong isolytic action. Ascoli found in 1 case of pneumonia a decrease in the hemolytic action of the serum from week to week until it disappeared.

In 2 cases of gastric ulcer, 1 of convalescent malaria, 1 of pernicious anemia, 1 of postdiphtheritic paralysis, 1 of salpingitis and 1 of pregnancy, the serums were found to be isohemolytic.

Two cases of pleurisy with effusion gave a negative result.

The degree of isolysis observed in the Maragliano reaction in diseased conditions is quite variable, some red cells showing apparently a greater degree of resistance than others, and some a complete resistance to the action of isolysins. According to Landsteiner, Ascoli, Hektoen,[11] etc., the isoagglutinins are considerably increased in some diseased conditions over that found in normal individuals.

Landsteiner, who first thought a relation existed between isoagglutination and isohemolysis, stated in a subsequent communication that an essential difference existed between the phenomena of isoagglutination and of isohemolysis, in that in the Maragliano reaction the serum acts on the corpuscles of the same individual.

In the pathologic serums examined by us we observed the hemolytic action of the serum on the corpuscles of the same individual in two cases of cancer and one of convalescent malaria.

On the other hand, we observed a close relation to exist between isohemolysis and isoagglutination in the examination of bloods of pathologic cases. This association was so frequently observed that we could apprehend with considerable certainty before examining the corpuscles that they had been agglutinated from the pinkish color of the supernatant fluid.

While this observation is not constant, it is sufficiently frequent to influence greatly the results obtained with the hemolytic reaction.

It would appear from our observations that the frequency of what is commonly termed a positive isohemolytic reaction will depend usually on two factors: (1) to what group with regard to isoagglutinins the suspected blood belongs, and (2) whether there are bloods among those against which it is tested whose corpuscles will be agglutinated by the serum of the suspected blood, and it is immaterial apparently whether the cor-

6. Weil: Observations on the Hemolytic Reactions of the Blood in Dogs Affected with Transplantable Lymphosarcoma (abstr.), THE JOURNAL A. M. A., Jan. 4, 1908, l, 64.
7. Crile, George: Hemolytic Tests for Malignancy (abstr.) THE JOURNAL A. M. A., June 27, 1908, l, 2150; also: Jour. Am. Surg. Assn., 1908, xxvi, 619.
8. Blumgarten: Med. Record, 1909, lxxv, 61.
9. Whittemore: Boston Med. and Surg. Jour., 1909, clx, 77.
10. Landsteiner: Wien. klin. Wchnschr., 1901, xiv, 1132.
11. Hektoen: Jour. Infect. Dis., 1907, iv, 297.

puscles are from another case of cancer, tuberculosis, etc., or a normal. We find confirmation of this latter observation in our work in the original statement of Maragliano, that the serums of pathologic cases are hemolytic for the corpuscles of diseased individuals as well as for the corpuscles of normals.

In regard to the nature of the isolytic substance, Ascoli was able to show that its activity was destroyed by heat, but that it could be reactivated by the addition of a fresh serum. This would seem to indicate that it was an amboceptor that depended on the presence of complement for exerting its hemolytic influence on blood corpuscles, and that it was not due to the action of any toxin produced by an infectious agent.

On the other hand, holding in mind the experiments of von Dungern, Ehrlich and Morgenroth, Ascoli, etc., it would seem that this hemolytic property of pathologic serums was associated in some way with cell destruction, and that, as Ascoli suggests, a reaction of the organism against the absorbed products of cell destruction results in the formation of antibodies which are hemolytic.

We examined, several weeks ago, among others, a student's blood which was taken as normal. At that time his serum, which agglutinated the corpuscles of Groups 2 and 3, did not show any hemolytic action on human corpuscles. We examined his blood a few days ago and found that his serum hemolyzed corpuscles which it agglutinated to about the same extent as had a cancer serum in the same series of examinations. On inquiring into the history of the student during the interim of examinations, we found that he had lost about seventeen pounds in weight. He denied any infection and said that he felt well, but tired. He attributed his loss of weight to increase of work and loss of sleep in preparing for state examinations.

The circumstances in this instance, in which a normal-acting serum was converted into a pathologic-acting serum, would seem to support the theory that the isohemolytic property of serum is dependent on absorption products or antibodies of absorption products of abnormal cell degeneration.

In reviewing the literature of this subject and in analyzing our own work, which we find to conform to the earliest observations on this subject, we can see no reason for bringing this isohemolytic action of serums into specific relation with any one disease or condition. On the other hand, we can confirm Maragliano's original observation, that the serums of many pathologic cases may exert an hemolytic influence on the blood corpuscles of normal and diseased individuals.

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Lessons from the Russian Cholera Epidemic.—The Russian medical societies are now reporting the experiences of members during the recent cholera epidemics at various points. The importance of bacilli carriers in the dissemination of the disease is generally emphasized—this being evidently responsible for the spread of the epidemic at Dorpat and possibly explaining also the flaring up of the disease after it has been apparently extinguished by the winter's cold—the germs being kept alive by repeated contact infection. In the preceding epidemic a number of cases broke out simultaneously, all traced to contamination of the water, but in the present epidemic the cases occurred at long intervals and in widely separated parts of the city, probably the result of contact infection, possibly by intermediation of sound bacilli carriers. All agree that personal hygiene is the most effectual means of prophylaxis against cholera so that in highly civilized communities there is comparatively little danger from the disease.

EPILEPSIA PARTIALIS CONTINUA OCCURRING IN CEREBRAL SYPHILIS

REPORT OF A CASE, WITH OPERATION *

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It seems almost incredible that any form of epilepsy should exist and yet not be well recognized. The literature of this disease is very extensive, and much of it contains little that is new. There is a type of epilepsy, however, which does not appear in the text-books, and even in the most recent writings receives scant recognition. Thus, Oppenheim[1] mentions it in a few lines by stating that cases occur in which during the interparoxysmal period muscular twitchings of short duration and without loss of consciousness are observed in one or another portion of the body. It has been described, especially by Russian writers, as "epilepsia continua" (Koshewnikow, Muratoff, Bechterew); Bruns also mentions it.

The cases differ from those of myoclonic epilepsy; the twitchings are limited to a small portion of the body, and are more intense than in myoclonia.

The name, "epilepsia partialis continua," seems to have been first employed by Koshewnikow,[2] who reported four cases in 1894. Characteristic epileptic attacks occurred in all four cases; sometimes they were abortive, sometimes they were with loss of consciousness. No period of cessation occurred between these attacks, as in certain portions of the body clonic movements persisted with variation in intensity, and when these movements became very severe they passed into an ordinary epileptic convulsion. The patients were unable to work, as they held the twitching limbs with those not implicated by the movements. In two of the cases the disorder began with local spasm, which passed into the ordinary epileptic convulsion; in the other two the persistent clonic movement followed the ordinary epileptic attack. No information as regards pathology was obtained either by operation or necropsy. This form of epilepsy has, since the report of these cases, been called, by some writers, Koshewnikow's epilepsy.

Orlowski[3] reported a case of this type in which general epileptic attacks occurred after an infectious disease, and later the patient had attacks every ten or fifteen minutes without loss of consciousness. Twitching of fibrillary or tic-like character was seen in the right side of the face, implicating also the tongue and larynx and continuing during sleep. The right limbs were weak. The case was thought by some of those who heard the report to be functional and not organic. No pathologic cause was determined.

Choroschko has written a monograph on this form of epilepsy, but, as it is in the Russian language, I have been obliged to depend on abstracts.[4] In the *Jahresbericht für Neurologie und Psychiatrie*, 1907, it is stated that Choroschko reports three cases of his own and refers to eleven in the Russian literature. Outside of

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1. Oppenheim: Lehrbuch der Nervenkrankheiten, ed. 5, p. 1389.
2. Koshewnikow: Neurol. Centralbl., 1895, p. 47.
3. Orlowski: Neurol. Centralbl., 1896, p. 526.
4. Choroschko: Neurol. Centralbl., 1908, p. 279; Jahresb. f. Neurol. u. Psychiat., 1907, p. 772.

Russia, Bruns alone has observed this rare type. Choroschko differs from Koshewnikow in that he believes the lesion is subcortical and suggests the name "polyclonia epileptoides continua." The twitchings are clonic and extend gradually from a limited area, and usually synergetic muscles are affected, especially on the right side. There seem to have been no lesions found either by operation or necropsy, so far as one may judge from the abstracts.

It may not be amiss, therefore, to report a typical case of this partial constant epilepsy, especially as it is one in which operation was performed. It shows that the lesion may be cortical.

History.—The patient, a colored man, aged 22, was admitted to my service at the Philadelphia General Hospital, Feb. 19, 1908. He gave a clear history of syphilitic infection. In July, 1908, he had his first convulsion. The fingers of the right hand twitched at first slightly but later more severely, and the convulsion confined to these members lasted about twenty minutes and left a paralysis of the hand persisting about fifteen minutes. He had another convulsive attack confined to the right hand in about three weeks. The whole right upper limb became implicated in the third attack, and this attack was followed by unconsciousness. There seems to have been involvement of the face and right lower limb also in the fourth attack. After these repeated attacks persistent weakness of the right upper limb ensued.

Examination.—The weakness of the right side of the face increased greatly after the man entered the hospital, and the palsy was of the cerebral type, i. e., slight in the upper part of the face and almost complete in the lower part. The weakness of the right upper limb also increased considerably, and the right biceps and triceps reflexes were much exaggerated, whereas the corresponding reflexes on the left side were normal. Stereognostic perception and sense of position were lost in the right hand. Tactile sensation also seemed to be diminished in this part, but was normal in the face. The motor power was about normal in the lower limbs, and the patellar reflex was only a little prompter on the right side. Babinski's sign was not distinct on either side. The ocular examination revealed little that was abnormal.

The case was clearly one of syphilis of the brain with convulsions of the Jacksonian type, only the right side of the body being involved, and the persistent paralysis being confined to the right side of the face and the right upper limb. Other attacks which the patient had made the case an unusual one and worthy of careful study.

Independently of the typical attacks he had twitching confined to the right side of the face lasting an indefinite period, an hour or more at a time and occurring very frequently. There were periods in which he had none of these spasmodic movements, but the movements were almost constantly present, and resembled a tic movement or fibrillary twitching. They were not excessive in their intensity, and implicated the muscles about the right side of the mouth, about the right eye, the right cheek, the right ear, and the right side of the neck. After persisting for some weeks in the face they ceased in this part, and were observed in the right upper limb. The whole right upper limb was displaced in these clonic movements, but the displacement was not excessive, and the spasm consisted of slight twitchings lasting indefinitely as did the previous twitchings of the right side of the face. There was no impairment of consciousness. The peculiarity was the almost constant duration of fibrillary or twitching movements in the face at first and later in the right upper limb, movements that were very unlike the severe spasmodic contractions usually seen in an epileptic attack, both in intensity and duration.

It is a question whether operation is advisable in cerebral syphilis. Two cases with operation have been observed by me in addition to the one described in this paper; in one the removal of a gumma of the dura was followed by much improvement during a period of seven or eight years, but the patient eventually died of his syphilis. In another case excision of a gumma of the brain was performed, but the result was far from satisfactory, and in the case reported in this paper operation accomplished little. However, as there seemed to be a chance for the patient from operation, I referred him to Dr. Edward Martin, whose report is here given:

Because of the failure of mercury and iodid treatment, the steady progression of symptoms, the possibility of their leading to a fatal termination, operation was deemed advisable in this case. The Rolandic area was exposed by a periosteal flap which was raised by means of a Crile cutting tool driven by an electric engine. The dura was raised without difficulty, exhibiting only slight adhesion to gummata placed in the arm and face centers. A portion of this tissue was excised by circular excision, the obvious vessels leading to it being first encircled by fine gut carried by means of a fine pointed curved needle. The operation was attended by trifling shock.

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MEDICAL PSYCHOLOGY

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I make the following extract from an editorial in the London *Lancet*,[1] in 1885, based on an elaborate report by Buchanan, professor of surgery at Glasgow University, of the results that he saw during a visit to Lourdes:

There can be no question that faith-healing is a fact. The brain is not simply the organ of the mind; it is also the chief center or series of centers of the nervous system, by which the whole body is energized and its component parts, with their several functions, are governed and regulated.

There is no miracle in healing by faith, whereas it would be a miracle if the organism, being constituted as it is, and the laws of life such as they are, faith-healing did not under favorable conditions occur. . . .

Pathologists will limit the area of the process to the province of functional diseases, but we are not sure that we are justified by scientific facts in making this limitation. . . . It is a fact in pathology that if the functions of an organ be maintained or restored, much of the destructive metamorphoses . . . may be arrested and to some extent repaired. . . .

The "vis medicatrix Naturæ" is a very potent factor in the amelioration of disease, if only it be allowed fair play.

This extract is from an editorial written in 1885 in one of the most reliable and conservative of medical journals published in the English language; and now, in 1908, we still find ourselves shutting our eyes to this all-important department in the healing art, and relegating its practice to ignorant charlatans, enthusiastic religionists and fanatics and mystics of endless variety.

Is not the mind as essential to the well-being of the patient as is the body? And by what law of Nature is the treatment of disease by scientific means limited to mechanical and chemical agents?

If the mental activity of the patient has been an active agent in the production of disease—and no one disputes that this is in every case an important factor—how can it be unscientific or unprofessional, or undignified, to use this same mental activity of the patient to assist in the relief of his suffering?

The answer that many would make to this question is that mental activity is such an intangible, imponderable and un-understood force that we must ignore it, and thus leave its management to those sufficiently ignorant and unscientific to undertake its direction. Could a greater confession of incompetence to care for and direct those needing our aid be admitted than this?

If the mind is an important element in the protection

1. June 13, 1885, p. 1093.

from and the relief of disease, is it not as much our duty to study the mind and its functions as it is to study the body and its construction and functions? Or, briefly, is not psychology as essential a study for the physician as anatomy and physiology?

Have we not neglected an important part of our duty, and are we not, even if more scientific, quite as narrow and one-sided in our treatment of disease as those who attempt through the study and direction of the mind alone to restore the body to health?

Had we not been blinded by our narrow prejudices, the editorial just quoted and similar articles and discussions so long ago would have aroused our interest and led to our investigation, and we would have realized that we were neglecting an important element in the care of the sick and the prevention of disease.

The laity naturally look to us for direction in these matters, but in this we have failed them, and they are, in consequence, drifting away from us, and we are rapidly losing the position in their confidence which we should occupy. But, fortunately, while psychologic development has been progressing, conservative scientific men have been studying its meaning and its processes, and a great amount of knowledge has been accumulated, so that what was dark, uncertain and mysterious twenty-five years ago can now be scientifically discussed.

In order to recover the lost ground, we must assume the office of the investigator and analyzer of every element that enters into the cause, course and termination of disease. We must learn the sources and action of every force that plays a part in the preservation of health.

Do not imagine that I would by one jot or tittle detract from the importance of the work that our men have been doing in other departments. The advance of learning in anatomy and physiology in health and disease is marked, and, above all, the growth of the knowledge of the causation and prevention of disease has in the last few years been phenomenal. Nor would I in any way reflect on the ordinary medical and surgical treatment of disease. This is all good, but more is required of us. We must not only know the machine and its disorders, but we must also understand, as far as possible, the power and energy that propels the machine, and to do this we must go thoroughly into physiologic psychology and psychologic physiology, as well as into pure psychology, which last I believe to be a true science.

So much for the importance of our subject.

Science and discovery have worked revolutions in knowledge during the past fifty years, and we must not fear again to venture on new ground in our investigations.

No one of the many theories devised to explain the action of the mind in controlling bodily conditions has received general acceptance. In taking a working hypothesis, we do so, therefore, fully realizing that it is subject to amendment, as knowledge increases.

The radical change that is taking place in scientific thought was well illustrated at the meeting of the British Society at Dublin during the past summer. Dr. J. S. Haldane of Oxford University, president of the section on physiology, read a paper on "The Relation of Physiology to Physics and Chemistry.[2] In it he states his opinion that the mechanical theory of life has not only failed, but retarded the progress of science, and that the study of the phenomena of life belongs to the department of biology and philosophy. Francis Darwin (son of Charles Darwin), in the Presidential Address,[3] goes deeply into the discussion of the habits, memory and other qualities in plants, which we ordinarily classify as characteristic of intelligence. When vegetable cells manifest these qualities and powers, it is not difficult for us to surmise that the individual cells in our own make-up possess, to a certain extent, at least, the same characteristics; each cell exercising its particular function and duty with a degree of independence within its sphere of action, but still in all that it does, being under the direction and control of cells higher up in the functional scale. Thus, step by step, we go upward, until an ultimate central and always active control is reached.

Is it not logical to suppose that as our bodies develop from the original parent cell, each of the offspring of this cell inherits some of its individuality, and that as differentiation takes place this individuality is not lost, though function and structure be modified that each may fill its special place in the great community of cells which go to make up the whole? But, in order to bring about the necessary cooperation and coordination, the closest communication must be, from the first, preserved between the individuals, so each must be kept under the direct controlling influence of a higher delegated direction.

And so the body develops in all its parts—we must not stop here for details, but we may imagine the intelligent action displayed by each cell, the wonderful cooperation and coordination. There must be zone beyond zone of directing intelligence, each in its sphere guiding all below it, until, step by step, the whole is brought into perfect unison. There must be a controlling relationship between every separate cell in every distinct area of the whole body as development is corresponding elsewhere. To take a simple illustration, we find the cells of the toe-nail systematically arranging themselves; they must have a local directing intelligence. Again a higher intelligence directs the symmetry of the two corresponding nails, and probably a higher intelligence still compels the relative proportion of the toe-nail to, let us say, the eyelid; for we do not have a giant's eyelid and a pigmy's toe-nail in the same community.

These superimposed centers are developed, not to give power and function to the original cells, but to enable those cells to perform their duties adequately, with necessary system and cooperation. In other words, the function and power of the higher centers is delegated to them from what we may term the primary cells.

Have we not here a suggestion of Fechner's theory of the universe being but a succession of enveloping spheres of intelligence?

Or can we criticize that great apostle of pure materialism, Haeckel, for introducing and using the term "cell soul," with all that that term conveys?

Can one consider these things and doubt that an intelligent directed energy is in constant action in every cell in the whole body? I wish we had another term than "intelligence" to describe this energizing function. Intelligence is so apt to be confused with consciousness, on the one hand, and with instinct, on the other. Consciousness seems to be an entirely distinct quality or function of the mind while instinct is a term applied to

2. Brit. Med. Jour., Sept. 12, 1908, p. 693.

3. Brit. Med. Jour., Sept. 12, 1908, p. 731.

qualities which mark the lower phenomena of intelligence, but which, as I understand them, so gradually merge into definite intelligence that no line of demarcation exists, and so I use the word "intelligence" for all those qualities which show perception, discrimination and determination.[4]

And so we go up from one directing and energizing zone to another, until we reach the higher centers in the brain, but so gradual is the advance that we do not lose the sense of individual power and intelligence in the cell from which we started.

And if this individuality is a necessary element in the growth and development of the body, it is just as much so for the maintenance of the body through its whole existence. We must then realize that, while every cell in the body is to a degree an individual, still every cell is under the controlling influence, step by step, of higher cells, until the highest physiologic centers of the brain are reached, and that here a constant controlling energy is exercised which reaches to every individual cell.

We are all too familiar with physiology to necessitate my giving illustrations of these phenomena. The example of intelligent directed action in ordinary adult life that comes at once to one's mind is, of course, the action of the white blood corpuscles in inflammation. Here we have action so elaborate and so complex that it seems to approach a high order of intelligence.

We are apt to confuse our minds by falling back on the term "reflex." Reflex acts are in all cases manifestations of a degree of intelligence. The efferent impulse is entirely different in its nature, force and function from the afferent impulse, and these qualities of the efferent impulse are modified in each case by many conditions of environment.

And now having reached the high controlling centers which are in constant action, we are very close to consciousness.

One of the first facts we have to learn in psychology is that mind, consciousness, and intelligence are not synonymous terms. Our mind is in constant action; part of it, at least, is manifested in the constant intelligent energy of control of which I have just spoken. In this way the mind reaches every cell of the whole body and directly dominates it.

The organs of sense are the means by which impressions from without reach the higher controlling centers, and under the influences of these impressions we can see the controlling intelligent influence of the mind on our cells in a thousand ways. This is sometimes accompanied by consciousness, but this is not the rule.

I must not stop to give illustrations, for they are familiar to every student in physiology and medicine.

The ordinary reflexes, so-called, do not depend on consciousness. Acts which we can control by our consciousness we call volitional, but most acts that can be consciously controlled may also be performed without consciousness. Acts that the mind habitually performs, outside the influence of consciousness, we term involuntary.

Thus the control of nearly all the cells of the body by the higher centers is being constantly exercised, but this exercise is habitually involuntary. Hence, nearly all physiologic functions, such as the affairs of circulation, nutrition, secretion, excretion, digestion, etc., etc., are classed as involuntary acts.

And now we come to the all-important question, Can acts, habitually involuntary, in any way be controlled through the conscious mind? In other words, can these physiologic offices of the body be in any way influenced by conscious volition, that is, by the will?

This question may simply involve habit—we may from disuse have forgotten how to use this power—or it may be evolutional. Is a new power approaching in the developing consciousness of higher intelligence?

As the disturbance of physiologic function is the important element in the causation of disease, and the restoration of function may often restore health; indeed, as resistance to infection, immunity, etc., are produced by the functional secretions of certain cells, we realize at once the importance of this question of the control of cell functions by the will. Indeed, on this question "hang all the law and the prophets" of psychologic medicine.

And now we will turn and approach this question from another standpoint.

From Professor William James, of all thinkers and writers on these subjects, I myself have derived the most guidance. He stands to me as an intellectual giant, above prejudice and preconceived notion, weighing each new fact as it presents, and giving it its proper significance in the storehouse of our little knowledge. He is, as I suppose you all know, a graduate in medicine from Harvard, and so we can claim him as of ourselves, but his great knowledge of philosophy and psychology have given him a higher and broader point of view than most of us can obtain, and he can easily see over the stumbling-blocks that seemed insurmountable to me. To me it is now incomprehensibe to conceive why I was ever allowed to practice medicine without some knowledge of philosophy, as well as psychology. I supposed them a mystifying labyrinth of confusing and unprovable theories, while if philosophy is anything it is the science of the conformation of knowledge, and places each science in its proper place in relation to each other specialty. It is the balance-wheel of acquired knowledge, the educator of scientific judgment.

But to return to Professor James: In his presidential address[5] to the American Philosophical Association at Columbia College, Dec. 28, 1906, on the "Energies of Men," he comes nearer giving a direct affirmative answer to our question than I find in any short article that has come under my notice.

In this article he calls attention to the fact that in every one there are latent powers which, when aroused under extraordinary stimuli, enable one to do and to suffer what would have been thought beyond all possibility.

After many illustrations in the ordinary affairs of life, he comes to our important question. He says:

> There seems no doubt that we are each and all of us to some extent victims of habit-neurosis. We have to admit the wider potential range and the habitually narrow actual use. We live subject to inhibition by degrees of fatigue which we have come only by habit to obey. Most of us may learn to push the barrier further off and to live in perfect comfort on much higher levels of power.

4. Since this was written, Alfred Russell Wallace has published in the *Fortnightly Review*, March, 1909, page 434, this statement: "Now even the extreme monists, such as Haeckel, are driven to the supposition that every ultimate cell is a conscious, intelligent individual that knows where to go and goes there." See also the (New York) *Independent*, March 4, 1909, page 457, and the *American Review of Reviews*, April, 1909, page 485

5. Phil. Rev., January, 1907, xvi, 1.

And again:

> The normal opener of deeper and deeper levels of energy is the will. The difficulty is to use it, to make the effort which the word "volition" implies.

He then discusses the various processes by which the will may be developed in this power of control, and especially by methodical ascetic discipline, such as that of the Hindu Hatha Yogi system. And here he takes a case which is so pertinent to our question that I shall take the liberty of using it for our instruction:

A European friend of his, a man of the highest literary and scientific attainments, is greatly hampered in his work by a disordered nervous system manifesting itself in recurring attacks of great prostration. After exhausting the resources of ordinary medicine, he entered on the discipline of Hatha Yogi.

After persistent application, in spite of relapse, success came, and he found his mind and his body would obey his will, "like a wild horse tamed." A short four months of this training brought this man to an entirely new realization of life and its powers. Fourteen months after the beginning of the course, Dr. James says of him (p. 14):

> There is in fact no doubt that profound modification has occurred in the running of his mental machinery. The gearing has changed and his will is available, otherwise than it was, available without any new ideas, beliefs or emotions so far as I can make out, having been implanted in him. He is simply more balanced where he was more unbalanced.

This condition continued, and in answer to Dr. James' question as to where the virtue lay in these exercises, he wrote:

> The Yogi exercises are nothing else than a methodical way of increasing our will. . . .
>
> I am sure that everybody who is able to concentrate thought and will and to eliminate superfluous emotion, sooner or later becomes a master of his body and can eliminate every kind of illness—this is the truth at the bottom of all mind cures—our thoughts have a plastic power over our body.

Now, this case is not unique, or even uncommon in its results; indeed, it is limited in its application, for in it we have no direct illustration of the modification of organic tissue. But I use it because here we have a highly developed mind capable of analyzing and explaining the steps by which these results are brought about.

We see the same results produced by an endless variety of agents. He who is awake and unprejudiced can see them about him all the time. Thus, we see instances, under the practice of the many scientific and unscientific, religious and emotional cults, under the many extraordinary 'pathies, and all sorts of philosophical and nonsensical theories. The results vary in different cases; sometimes this power of concentration and self-control is developed only after long systematic training; sometimes, to the receptive, it comes so suddenly that it seems to the uninitiated almost miraculous in its results.

If we study these results in conjunction with the cause apparently producing them, we soon find that the objective idea received and acted on by the subject is of secondary importance. The key to it all is the subjective condition of the mind acted on; or, expressed simply, it depends on the will of the subject.

Admit for a moment the hypothesis that the mind has the power of exercising direct volitional control over the physiologic activities of the body, and it is all simple.

All so-called "faith-healing" comes, then, to be simply a volitional act, and we soon come to see that faith is the sure expectant knowledge that conditions we look for will come about.

I doubt if any one who is capable of analyzing these cases will dispute that they are actual experiences and so must admit that the physiologic activities are, under certain conditions, frequently controlled by the will of the subject.

And now what are these conditions that enable one to be receptive of the idea of the power of the will? for if I understand the will aright the realization of its power will certainly bring about this control.

No two bodies are the same in energy and habit of action, and our mental attitude and habits vary in infinitely greater degree.

It is doubtful if any idea can find a foothold in an unwilling mind, and if this be so "the will to believe" is the first essential condition.

In the majority of minds, uncertainty and a lack of self-reliance are so constant a habit that in order to receive a new idea they must have a tangible material fact to which to attach the idea. Hence many will exercise their power quickly if they have the idea that a certain definite material or certain particular act will produce a certain definite result. Here we see, as instances, the result of acts of faith, of acts of discipline, the results obtained by many medical treatments, and by mechanical and chemical appliances.

A concentration of attention on an idea helps the will to act on it, and if we can develop that degree of concentration which enables us to shut off all other ideas, especially those conflicting with it, and to render the attention practically passive, we are approaching ideal conditions.

No man stands alone. We are constantly imparting knowledge to each other. We look to all about us for ideas and enlightenment, and if we are willing to give dissociated, passive attention to a communicated idea from one we trust, the reception and adoption of that idea is very simple and direct; indeed, we often find that our will has put the idea into action through the deeper zones of intelligence before our consciousness even realizes its import.

No idea contrary to the will of the subject will find acceptance. The will has its individual characteristics, can be cultivated, and often, in time, changed, but still it is the will and the will of the subject is, I believe, the sole agent of action.

When ideas are thus implanted on an expectant and receptive mind, we speak of it as direct suggestion. I use the term "indirect suggestion" of those cases in which the attention is placed on some objective idea or agent in order to arouse the will to action. Often by fixing the attention on an idea without objective aid, we can bring the will to exercise direct personal control to a phenomenal degree. This, of course, is called self-suggestion, or autosuggestion.

As the attention becomes dissociated and passive, the mind of the subject becomes more and more susceptible to suggestion, and we often find a degree of power and self-control developed that seems in the ordinary commerce of life incomprehensible.

Deeper and deeper states of dissociation can be discovered and exploited, but these are seldom developed in medical psychology, and we need not here even discuss them.

It thus seems that the will may be excited to this controlling activity by many different processes. As minds differ, so results may be produced by different methods. What succeeds with one may entirely fail with another, and the reverse.

While I am inclined to believe that there is no mind that can not be aroused by some process, there is a wonderful difference in the facility by which this may be done. Investigators have not yet been able to give a basis of classification or any guide by which susceptibility may be determined, except by individual experience. Everything being equal, however, the higher in the scale of intelligence the more easily can concentration and the action of the will be aroused. On the other hand, the opposing action is the will itself, especially in the egotist who knows it all, and knows that he knows it.

We are all constantly using suggestion in some form in every phase of every-day life. Indirect suggestion is the common rule, but when we understand what we are doing, and desire to use suggestion, it seems to me that it is in every way much more satisfactory to use the direct method. The power of self-control can, by direct suggestion, be developed and the mind built up to a condition of strength, power and self-reliance that is impossible by any other means.

To quote again from the same article of Professor James:

> Suggestion, especially under hypnosis, is now universally recognized as a means, especially successful in certain persons, of concentrating consciousness, and in others of influencing their body states. It throws into gear energies of imagination, of will, and of mental influence over physiological processes that usually lie dormant. . . . It is, in short, dynamogenic.

That is, I take it, that one is capable under certain conditions of controlling, through some zone of intelligence, the activity of the primary tissue cells.

222 West Colfax Avenue.

Clinical Notes

DEATH FROM HEMORRHAGE INTO THE SUPRARENAL BODIES IN A BOY OF EIGHTEEN*

LUDVIG HEKTOEN, M.D.
CHICAGO

The interesting and instructive case of hemorrhage into the suprarenals here reported occurred under the care of Dr. Byron Meacher, Portage, Wisconsin, to whom I am indebted for the specimen shown; namely, the right suprarenal body and the right kidney.

History.—Dr. Meacher's history of the case follows: The patient, a boy, aged 18, came to the hospital Jan. 26, 1909, for operation for a left inguinal hernia. The examination before the operation indicated that the patient was in perfect general health. The urine was normal; there was no history of any previous illness of any importance whatsoever except that four years ago he suffered from an infection of the left leg, recovery from which was complete. No record of tuberculosis could be obtained. Operation, January 27, under ether anesthesia, was uneventful. On the first day after the operation the pulse ranged from 100 to 140; it was normal on the second day, but from the third day, January 30, until February 10 it ranged from 100 to 140; after February 10 it was normal in rate but irregular until death, February 15. The pulse was feeble all this time. The temperature was normal until the third day after the operation, when it gradually rose to 102 F., where it remained for two days, gradually going down to normal during the next five days. The day before death the temperature was subnormal. The urine at no time showed anything abnormal. Immediately after the operation the patient complained of pain a little to the left of the median line under the costal margin and later of the same kind of a pain under the right costal margin. This pain persisted with some tenderness until death. On the fifth day the liver reached three fingers below the costal margin and was then quite tender, but on the ninth day it seemed to have returned to its normal size, the tenderness, however, persisted. Some food was taken every day and there were no disturbances of the bowels, but the patient vomited at different times after the fifth day, gradually losing weight. The wound healed by primary intention. On February 9 the mind seemed somewhat clouded and gradually became more so until death occurred, February 15.

Postmortem.—There was no abnormal discoloration of the skin. The wound in the left inguinal region was healed throughout. There was some emaciation. The heart, lungs, liver, intestines and urinary bladder were normal in appearance. The spleen seemed considerably enlarged. The kidneys also were normal. Both suprarenal bodies were much larger than normal, firmly adherent to the surrounding structures, and densely and uniformly infiltrated with blood so that their appearance was like that of a hemorrhagic infarct. The right suprarenal and the right kidney were submitted to me for further examination. The kidney is quite normal in size and appearance, the capsule free; the right suprarenal body is situated in the usual place at the upper pole of the kidney. It is much enlarged, being 5 cm. in width, 5.5 cm. in height and about 2 cm. in thickness, and so uniformly infiltrated with firmly clotted blood that only a very thin shell of the cortex is recognizable here and there. In places there is some infiltration of blood into the tissues about the suprarenal, but the main hemorrhage is wholly within this organ. On the cut surface it is quite smooth and red. The hemorrhagic infiltration is most intense in the medullary part and appears to be of about the same age everywhere, and microscopically the tissue is uniformly necrotic, no nuclei being demonstrable in the adrenal cells; some of the vessels in the central part are plugged with clots and the mouth of the suprarenal vein is closed by a firm, adherent and yellow thrombus which projects into the vena cava as a small smooth oblong body about 1 cm. in the longest dimension. A short and incomplete segment only of the vena cava accompanies the specimen so that nothing can be said of the condition in other vessels.

In the newborn and in infants and children, hemorrhage into the suprarenal bodies is relatively not uncommon. Recently it has been dealt with quite exhaustively by Arnaud,[1] Hamill[2] Dudgean,[3] and Litzenberg and White.[4] The literature also contains reports of instances of more or less extensive hemorrhage into the suprarenal bodies in adults, and in some the clinical and anatomical details are not much different from those in the present case. This is especially true of cases described by Mattei,[5] Arnaud, Pritchard,[6] Laignel-Lavastine,[7] Simmonds,[8] Munson,[9] Lissauer,[10] and Lavenson.[11] Lavenson gives an excellent and exhaustive

* Read before the Chicago Pathological Society, March 8, 1909.

1. Les hemorrhagies des capsules Surrénales. Arch de méd., 1900, new series, iv, 5.
2. Hemorrhages into the suprarenal capsule in still-born children and infants. Report of case showing rupture of the sac and escape of blood into the perirenal tissues and the peritoneal cavity. Arch. Pediat., N. Y., 1901, xviii, 81; also Tr. Am. Pediat. Soc., N. Y., 1900, xii, 176.
3. The etiology, pathology and diagnosis of adrenal hemorrhages. Am. Jour. Med. Sc., 1904, cxxvii, 134.
4. Hemorrhage of the adrenals in infants with report of two cases due to infection, THE JOURNAL A. M. A., 1908, li, 1964.
5. Richerche sull' anatomia normale e pathologica della cassule supra renali e considerazione sull' apoplessia di questi organi e sulla malattia dell' Addison. Sperimentale, 1863, xi, 3.
6. A case of hemorrhage into the suprarenal capsule of both sides. Lancet, 1890, i, 750.
7. Hemorrhagie des glandes surrénales. Bull et mém. Soc. anat. de Paris, 1901, lvii, 683.
8. Ueber Nebennierenblutungen. Virchow's Arch. f. Path. Anat., 1902, clxx, 242.
9. Suprarenal hemorrhage, an unusual cause of sudden death. THE JOURNAL A. M. A., 1907, xlix, 19.
10. Zur Kenntnis der Nebennierenblutungen. Virchow's Arch. f. Path. Anat., 1908, cxliii, 137.
11. Acute Insufficiency of the Suprarenals. Arch. Int. Med., 1908, ii, 62.

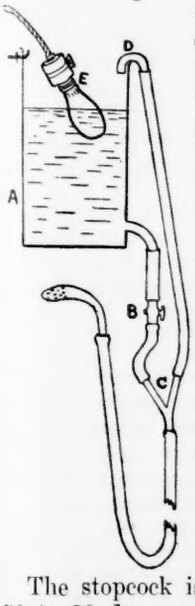
résumé. In some of the cases there is uncertainty as to whether the primary condition was hemorrhage or thrombosis of the principal veins, followed by hemorrhagic infarction. Lissauer believes that in cases studied by him the primary condition was thrombosis, and it seems to me not unlikely that such was the case in the present instance also. Suprarenal hemorrhage does not seem to have been diagnosed during life as yet, and, while there can be no doubt that bilateral suprarenal hemorrhage or hemorrhagic infarction, as in this case, may cause death after distinctive clinical disturbances, the observations so far recorded probably are not sufficient for the reconstruction of complete clinical picture or pictures, although Arnaud concludes his study of a large number of cases of all kinds of suprarenal hemorrhage by dividing them on the basis of symptomatology into three distinct clinical types, viz.: the asthenic type (suprarenal insufficiency), the peritoneal type (peritoneal irritation), and the nervous type. Lavenson adds two more groups; namely, cases of sudden death and cases, so far observed only in children, with purpuric eruptions or hemorrhages in the abdominal viscera.

PROCTOCLYSIS

A SIMPLE METHOD OF ADMINISTERING THE MURPHY TREATMENT

M. IVERSEN, M.D.
STOUGHTON, WIS.

While there are many devices and arrangements for administering the "Murphy treatment"—proctoclysis—most of them are either costly, clumsy or both. The method I have adopted, and which the accompanying illustration makes self-explanatory, has proved satisfactory. It has the added virtue of being easily carried out with material at hand in any hospital.



The parts consist of a fountain syringe or irrigator (A), a stopcock (B), a Y-shaped glass tube (C). From the latter a long rubber tube, ending in a hard rubber or glass tip, extends downward and another piece of tubing extends upward, ending in a U-shaped glass tube (D), the open end of which projects into the irrigator. I have found an 8-candle-power incandescent electric drop light (E) all that is necessary to maintain the temperature of the saline solution.

The stopcock is set so as to permit a flow of from 50 to 80 drops a miuute. The vent tube leading from C to D permits the back flow of liquid or the passage of gas when the patient strains. The container should be from 4 to 14 inches above the level of the buttocks.

Therapeutics

PREVENTION OF TUBERCULOSIS

Dr. Noble P. Barnes, Washington, D. C., presented a paper at the International Congress on Tuberculosis (*Interstate Medical Journal*, January, 1909), which states so well the every-day methods of preventing this disease that it is time well spent to review them.

As unhealthy mucous membranes are probably generally the point of entrance into the system of the tubercle bacillus, Barnes emphasizes the necessity for keeping mucous membranes clean and healthy and with free drainage. He emphasizes the necessity for the complete and prompt removal of adenoid vegetations and enlarged tonsils in young children, and believes that the frequently performed tonsillotomy, while removing obstruction, leaves partially concealed or submerged diseased tonsillar tissue that not only harbors various organisms, but offers an open door for the tubercle bacillus. If it is decided that a tonsil is diseased a complete tonsillectomy should be done. Also, partial removal of adenoids does not relieve the congested turbinates, and proper nasal breathing and nasal mucosa drainage can not be established until the nasopharynx is cleared.

The nose itself should be made as free of bony obstructions and mucous membrane hypertrophies as deemed necessary for the free passage of air. If the mucosa is thickened, the use of mild alkaline antiseptic solutions followed by mentholated pure petroleum oil will aid in causing it to become healthy. In simple catarrhal conditions of the larynx and upper bronchial tubes, the inhalation of some mild aromatic antiseptic oil solution is of value.

Barnes believes that the rising toilet of all individuals who possess sensitive mucous membranes, and of those who inhale city dust, should include the employment of a non-irritating nasal douche, and a cold water gargle. "A free change of air in the lungs is next in order, the method depending on the physicial condition, and lastly inhalation for from five to ten minutes of mentholated aromatic oils."

From such a morning toilet of the nose and throat, mucus that may have collected during the night is washed off and expelled, the appetite for breakfast is improved, and the mucous membrane is prepared to counteract the ill effect of the dust and bacteria that must of necessity be inhaled during the day.

If the mucous membrane of the nose and throat is unhealthy, Barnes suggests, besides small doses of iron, small doses of iodid. This is certainly good treatment, provided the dose of iodid is very small, perhaps not more than 0.03 to 0.05 gram (or ½ to 1 grain) three times a day.

If a tuberculous process is going on in the lung, Barnes advises against respiratory exercises as tending to prevent the normal healing of the part. This is certainly good advice, as either the exercise is often carelessly ordered by the physician, or the patient or the patient's family, through the reading of popular articles, begins deep breathing at a time when it is positively contraindicated. Later, when a lung has thoroughly healed, graduated respiratory exercises are advantageous. Barnes suggests the following precautions in lung gymnastics, viz.: never expand the chest beyond the degree of comfort for fear of tearing open old wounds or rupturing air cells. 2. The air should be expelled through the nose instead of through the mouth or puckered lips as taught by most teachers of physical culture, because the turbinates are cooled by inhalation, and warmed by exhalation, and the dust caught on the nasal hair and mucous membrane will be forced out instead of being drawn further in."

The mucous membrane of the digestive tract becomes second in importance as a route of tuberculous invasion

in infants and children, and besides the frequent swallowing of human tubercle bacilli in contaminated food, and from putting into the mouth unclean hands and toys, it seems to be a proved fact that bovine tubercle bacillus is pathogenic to children. Besides the necessity for pure, clean, and non-infected food for infants, a primary necessity in this prevention of digestive infection is to keep the things the child puts in its mouth clean, and Barnes believes "the abominable pacifier, which is first put into the nurse's mouth, then rolls around on the floor, and then finally into the baby's mouth, is pernicious and a germ carrier, to say nothing of the deformities of the face and mouth that may occur from such constant sucking." Such "sucking quieters" of the babe create a habit for putting everything into his mouth when he gets a little older, to say nothing of sucking his own dirty fingers, putting pennies and other dirt-carrying things into his mouth, and later as a school child "chewing gum, sucking pencils, nibbling his nails, etc." All such sucking and chewing habits are best prevented by not allowing the babe to acquire such habits.

If the stomach mucous membrane is believed to be imperfect, Barnes believes that a little dilute hydrochloric acid may be needed to cause the stomach to be a proper germ-killing organ. The hydrochloric acid of the stomach not only has its local efficient action, but also stimulates the proper flow of the bile and the proper flow of the intestinal secretions.

Too great care of the child's teeth can not be given. Decayed teeth must be filled or extracted, and Barnes thinks it is many times a fallacy to believe that diseased teeth in children should be left *in situ* for fear of interfering with the proper eruption of the second teeth.

Tuberculous lymph bodies which can be reached Barnes would immediately remove. "Simple enlargements of the lymphatics in children can be reduced by diet, hygiene, and the administration of sodium salicylate and iodid of iron," but if they are tuberculous such treatment will not cause them to become normal, and they must be removed.

As many more eye inflammations in children are tuberculous than was once supposed, more careful attention to cleansing the eyelids in the morning and evening with non-irritating antiseptic lotions seems advisable.

Examination of the ears of infants who are in any way ill should be routine, and the ears should be carefully watched when the child has any kind of a cold, or cries from pain that can not be localized.

Besides the above measures in preventing local inflammations and the catching of cold from local infection, colds may be prevented by proper bathing. Barnes believes the hot bath for the child should be discontinued, and that "the tepid and gradually cooling shower accompanied by friction should be adopted; the temperature depending on the individual case and lowered only to the point of giving good reaction."

He sums up the measures for the prevention of colds and therefore the tendency to tuberculosis as, "proper hygiene of the skin and mucous surfaces; proper hygiene in diet, sleep, and living; avoiding fatigue, long hunger, mufflers, and chest protectors; avoiding dust and poorly ventilated places." No exercise in the open air can overcome the injuries to the child from sitting in foul-aired schoolrooms or sleeping in close apartments, nor can fresh air and good food overcome disease while such wrong living is continued.

New and Nonofficial Remedies

SINCE THE PUBLICATION OF THE BOOK "NEW AND NONOFFICIAL REMEDIES, 1909," THE FOLLOWING ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK ARE ASKED FOR.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(*Continued from page 1835*)

ORGANS OF ANIMALS

The discovery of the importance of internal secretions has led to extensive clinical trials with preparations of the so-called ductless glands, and other tissues which elaborate, or are supposed to elaborate such internal secretions. Two of these, the thyroid and suprarenal glands, have given decisive therapeutic results and have become official in the Pharmacopeia; preparations of the active principle of the suprarenal are described in this book under the heading of "Epinephrin." The other organ products are scarcely beyond the experimental stage, and may therefore be described together. Their active principles have not been isolated, and they are most commonly used in the form of the powdered dried gland. The gross fat and connective tissue should be removed as completely as possible, and the drying should be conducted at a relatively low temperature. The powder is frequently compressed into tablets. It is recommended that the strength of these should be stated in terms of the dried gland. Since there are no tests for the quality, or even identity, of these powdered products, the physician, unless he can himself supervise their preparation, is forced to rely on the general reputation of the manufacturer.

After the description of each gland a list of such preparations as have been submitted to the Council, and which are being marketed in an unobjectionable manner, is given. For the reasons stated, however, the Council disclaims any responsibility for their quality or identity.

PITUITARY GLAND

The removal of this body in animals is followed by symptoms of motor disturbances, depression, emaciation, and rapid death. The infundibular portion of the gland causes, when injected intravenously, a rise of blood pressure and slows but strengthens the action of the heart. It contains a substance soluble in water, and not destroyed by boiling, which is stated to cause dilation of the renal vessels and a marked increase in the secretion of urine. The gland has been found to be abnormal in many cases of acromegaly and so is believed to have an internal secretion acting on the growth of bones. The anterior lobe is claimed to have properties similar to those of thyroid extract.

The drug has a doubtful effect on the circulation when given by the mouth, but the infundibular portion may be useful in cardiac debility. An extract of this part of the gland has been recommended as a diuretic. The results of the use of the gland in acromegaly are uncertain, but the output of phosphates is increased. It may be given at the first symptom of debility or functional disturbances.

DESICCATED PITUITARY SUBSTANCE (ANTERIOR LOBE)—Armour.—The anterior lobe from the pituitary of the ox, separated, dried and powdered without the addition of preservative or diluent.

A light grayish yellow powder, having a slight peculiar odor. Partly soluble in water.

One part represents approximately 4.5 parts of the fresh substance. On incineration, it should yield not more than 6.5 per cent. ash.

Action and Uses.—See pituitary gland above.

Dosage.—0.05 to 0.20 Gm. (1 to 4 grains) in powder or tablet.

Manufactured by Armour & Co., Chicago.

DESICCATED PITUITARY SUBSTANCE (POSTERIOR LOBE)—Armour.—The posterior lobe from the pituitary of the ox, separated, dried and powdered without the addition of preservative or diluent.

A light grayish yellow powder having a slight peculiar odor. Partly soluble in water.

One part represents approximately 4.5 parts of the fresh substance. On incineration, it should yield not more than 6.2 per cent. of ash.

Action and Uses.—See pituitary gland.

Dosage.—0.05 to 0.20 Gm. (1 to 4 grains) in powder or tablet.

Manufactured by Armour & Co., Chicago.

Thymus Gland

Little is known as to the functions of the thymus, but it is believed to have an important relation to growth. There also seems to be some relation between the thymus and thyroid, for the former is frequently abnormal in diseases involving the latter (exophthalmic goiter).

The use of thymus is purely empirical. It has been recommended in the treatment of exophthalmic goiter, rickets, tuberculosis, hemophilia, and infantile marasmus and atrophy; its use in the latter conditions is said to be the most promising. It is claimed to exert a somewhat favorable effect in certain cases of cancer.

Mammary Gland

The extracts of the mammary gland are said to have an effect upon the uterus. They have been used in the treatment of profuse and painful menstruation and of uterine and ovarian tumors, but the beneficial results reported can hardly be accepted until confirmed by further observations.

Parotid Gland

Indications and suggested uses are similar to those for the mammary and ovary; it has been recommended in artificial menopause, intermenstrual pain and other conditions in which the ovary or corpus luteum are used.

Parathyroid Gland

The parathyroid gland, even in small doses, has a pronounced action on the course of the tetany resulting from the removal of or injury to the parathyroid glands. Its use checks the convulsions and removes the feeling of fear, the nausea and diarrhea and has undoubtedly at times greatly prolonged life or saved it while the injured parathyroid glands regained their functions. The fresh gland seems to be more active than the dried commercial preparation.

The drug has been used most successfully in tetany following removal of the parathyroids; its use in idiopathic and other non-operative forms of tetany has been less successful.

DESICCATED PARATHYROID GLAND—Armour.—Desiccated Parathyroid Gland—Armour, consists of the exterior parathyroids of the ox freed from fat, cleaned, dried and powdered, without the addition of preservative or diluent.

A light yellow powder, having a peculiar odor. Partly soluble in water.

One part represents approximately six parts of the fresh tissue. On incineration it should yield not more than 7 per cent. ash. It contains very small amounts of organically combined iodine.

Action and Uses.—See parathyroid gland.

Dosage.—0.006 Gm. (1/10 grain) four times a day.

Manufactured by Armour & Co., Chicago.

Testicle

Subcutaneous injections of testicular extracts were claimed to increase muscular energy from 10 to 20 per cent. Oxidation is somewhat increased and extracts of the gland may be used in obesity, but the results are uncertain. It has also been recommended in prostatic hypertrophy and many other conditions.

Spleen

Spleen has been used empirically in anemia, chlorosis, myxedema and various other diseases.

Ovary

The ovaries produce internal secretions which are necessary for the proper functioning of the uterus and which also have obscure effects on metabolism and the nervous system. Diminution or cessation of the activity of the ovaries (as at menopause, natural or artificial) often leads to a variety of nervous symptoms; irregularities in their activities seems to be sometimes accompanied by dysmenorrhea. Ovarian substance has been administered, often with apparently good results, for the relief of symptoms following the natural or artificial menopause and in dysmenorrhea, intermenstrual pain, etc.

Corpus Luteum

It is generally recognized that one or more of the most important of the internal secretions of the ovaries originate in the corpora lutea and the latter have been tried recently to a considerable extent in some of the classes of cases in which the entire gland is used. Thus, it is stated that in cases of artificial menopause, following operation, the use of the dried corpus luteum has been followed by great improvement. It may be given in the form of tablets, each of which is composed of a dried corpus luteum, obtained from a pregnant animal, usually a pig; or it may be given as "lutein" in twenty grain doses, three times a day, in some cases given continuously, in others periodically when the discomforts are greatest, and continued for about ten days at a time. The "lutein" is made by squeezing out the corpora lutea from the ovaries of the pig obtained at the slaughter house. The corpora are then rapidly dried, powdered, and compressed into tablets. These preparations are stated to frequently give good results when the ordinary ovarian extract made from the dried tissues of the ovary itself fails.

Corpus luteum has also been recommended in obesity associated with amenorrhea and in other conditions of "ovarian insufficiency" and in dysmenorrhea.

Drevet recommends that an extract of the corpora lutea, prepared as follows, be used: 1 kilo of finely divided corpora lutea are macerated in the cold for forty-eight hours with a mixture of 500 Cc. glycerine, 500 Cc. distilled water and 10 Cc. sulphuric acid. The liquid is filtered, neutralized with soda and the precipitate after being washed, is dissolved in acetic acid and again precipitated. The precipitate is then dried in vacuo. Dose of this extract, 0.04 Gm. to 0.08 Gm. (⅔ to 1⅓ grain) gradually increased to 0.12 Gm. (2 grains).

Red Bone Marrow

Red bone marrow consists largely (more than 90 per cent.) of fat. In new born animals a third or more of this fat consists of lecithin. The marrow of the bones of new-born animals contain iron (up to 1 per cent. or more) in various forms of organic combination. Both lecithin and iron decrease rapidly in the first weeks after birth. The commercial preparations contain very variable amounts of these constituents.

Action and Uses.—Red bone marrow is supposed to stimulate the formation of red blood corpuscles; whatever action it may have in this direction is probably due largely to the iron and lecithin which it contains.

It is recommended in simple and pernicious anemias.

EXTRACT OF RED BONE MARROW.—Extract of red bone marrow is a glycerin extract of the red marrow of bones. It contains about 2 per cent. of proteids, about 0.1 per cent. of lecithin and about 85 per cent. of glycerin.

It is a brownish liquid of an agreeable aromatic taste.

Actions and Uses.—This preparation is claimed to stimulate the formation of the red blood corpuscles.

It is recommended in simple and pernicious anemia.

Dosage.—4 to 8 Cc. (1 to 2 fluidrams) in water, milk or wine, three times a day.

Prepared by Armour & Co., Chicago.

(To be continued.)

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

103 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

[*For other information see second page following reading matter*]

SATURDAY, JUNE 12, 1909

TUBERCULOSIS AND THE INDIAN

Mortality from tuberculosis is said to be far higher among the Indians than among the whites or even among the negroes.[1] It is generally believed, however, that there was no tuberculosis among the Indians previous to the coming of the white men. If it existed, it must have been exceedingly rare. Early histories of the aborigines describe such diseases as smallpox, cholera, filth diseases, insanity and rabies (from the bites of wolves and skunks), but say almost nothing of tuberculosis. As the whites came into contact with the Indians, this disease spread progressively from east to west.

The negative reason for the peculiar mortality from tuberculosis among the Indians is that this race, having come into contact with the disease very recently, has not had time to acquire immunity. For a similar reason, the negro race also has a high consumption mortality: it is very probable that there was no tuberculosis in Africa until the white man took it there. If the condition of the Indian and the negro, who have no racial immunity against tuberculosis, be compared with that of the Jew, who, through the forty centuries of his contact with tuberculosis, has established for himself a comparative immunity against the disease, it is seen that the Jewish race has not only a lower death rate from tuberculosis than the other two, but perhaps the lowest rate of any people.

The positive agencies for the dissemination of tuberculosis among the Indians are their personal and domestic habits. In the old days the nomadic Indians dwelt in more or less temporary abodes. These were well ventilated, since there were no means for making them air-tight. They were dirty enough; but by the time the stench from the filth around them became unbearable, it was time for the inhabitants to move on. They must sometimes have become infected; but the most permanent possessions of the Indians were of such perishable nature, compared to the belongings of civilized people, that diseases can not have been long perpetuated by them. Civilization, however, has provided the Indian with a durable and immovable house—generally a log cabin or rude hut—capable of being hermetically sealed against the air. Now he can shut out the fresh air, as he could not from his tepee. He is not sufficiently advanced to understand and apply the principles of disinfection; and his belongings, sheltered by four walls and a roof, are much less subject to Nature's process of purification by destruction.

When the virgin soil of the Indian's constitution is prepared by such habits as these and by liberal indulgence in the white man's fire-water, it is natural enough that the seed of tuberculosis should strike deep root there and bring forth abundant harvest of death.

The national government has not been wholly remiss in its attitude toward this matter. The Honorable F. E. Leupp,[2] Commissioner of Indian Affairs, and Prof. Ales Hrdlicka,[3] of the United States National Museum, have been active in the work of saving the Indian from extinction. The Lake Mohonk (N. Y.) Conferences also have been zealously agitating the matter. On the Cattaraugus Reservation, in New York State, an excellent dispensary, a well-equipped hospital, and the Thomas Indian School for Indian Children are maintained. What is being done for the Indian, however, is but a fraction of what should be done; and, if humane instincts will not prompt us to action, enlightened selfishness may furnish a motive. The Indian, in his intercourse with the whites to-day, is a constant disseminator of infection. Self-protection should, therefore, dictate such humane efforts as a dormant sense of justice may fail to inspire.

1. Eighth Ann. Rep., Bureau of the Census, Mortality Statistics, 1907.

ANAPHYLAXIS

In a recent contribution to the study of anaphylaxis Biedl and Kraus[1] assert that, at least in dogs, the symptom-complex characteristic of the so-called anaphylactic shock is caused by a profound peripheral vasodilatation with a correspondingly grave fall in blood pressure. The other symptoms—vomiting, diarrhea, anuria, etc.—they regard as secondary to vasodilatation, which is regarded as the underlying primary process. They also found in the anaphylactic state a greatly decreased coagulability of the blood, as well as a marked fall in the number of polymorphonuclear leucocytes. They, furthermore, emphasize that results similar to those obtained by them in anaphylactic dogs follow the intravenous injection into normal dogs of commercial (Witte's) peptone; indeed, they assert that the results in the two cases are so much alike as to be practically identical. They even maintain that they have produced the so-called anti-anaphylaxis—the extinction of hypersensitiveness that follows survival of the acute symptoms produced by a second injection of the foreign serum in sensitized animals—quite as readily by the injection of peptone as by the injection of the foreign serum itself. Reversely, survival of the second injection of foreign serum is said to give a considerable measure of freedom from the poisonous effects of pep-

2. Leupp, F. E.: Fighting Tuberculosis Among the Indians, Southern Workman, November, 1908.

3. Hrdlicka, A.: Contribution to the Knowledge of Tuberculosis in the Indian, Southern Workman, November, 1908.

1. Wien. klin. Wchnschr., 1909, xxii, No. 11.

tone. Biedl and Kraus believe that such striking similarity of results is explainable only on the assumption of the presence in the two cases of substances physiologically identical. On the basis of their results they offer as a hypothetical explanation of the acute phenomena of anaphylaxis the formation in the sensitized animal of a vasodilating substance which becomes fully active on the introduction of a second dose of the foreign protein. Richet,[2] pioneer investigator in this field, who first introduced the word "anaphylaxis," in discussing the work of Biedl and Kraus, points out that he himself has shown, so long ago as 1902, that in anaphylactic shock there is an extreme and rapid fall in arterial pressure. This fall, however, he regarded and still regards as a secondary phenomenon due to cellular changes especially in the central nervous system. Richet holds that vasodilatation does not explain the vomiting, the diarrhea, the intense itching, the convulsions, the coma, and other symptoms characteristic of anaphylactic shock, especially since such symptoms are not a necessary consequence of even extreme vascular dilatation produced by other means. As to the incoagulability of the blood, his experience indicates that it is not at all constant in anaphylaxis. The toxic effect of Witte's peptone, which, it is well to remember, is a complex substance, after all is in so many ways dissimilar from the anaphylactic shock that the comparison does not help to explain the latter. Consequently, while no doubt exists as to the occurrence of vasodilatation in acute anaphylaxis, we have good reason to believe that the dilatation is a secondary phenomenon and that the primary process must be sought elsewhere than in the peripheral vasomotor apparatus.

2. Presse méd., 1909, xvii, 249.

THE BIOLOGIC STANDARDIZATION OF DIGITALIS

We publish elsewhere[1] in this issue an abstract of Bulletin No. 48 of the Hygienic Laboratory, Washington, D. C., entitled "The Physiological Standardization of Digitalis." It contains a good deal of material which is of great interest to the physician, because, in addition to giving a complete historical review of the various steps which have led up to biologic standardization of drugs, and an investigation into the accuracy of these methods, it also gives the results of the writers' examination of some of the proprietary preparations of digitalis which are on the market. Three of these nonpharmacopeial preparations compared very favorably with the official fluidextracts as the results given in the table on page 1939 show. With two more preparations, however, the findings were not as favorable, and they furnish examples of the vast difference between theory and fact, or perhaps it might be said between manufacturers' claims and actual conditions. One of these is claimed to have about double the effect on the system that an ordinary fluidextract possesses. In reality, when judged by its effect on animals, it appeared to be considerably weaker than the fluidextracts examined. It would seem also that the manufacturers themselves are not entirely convinced of the increased potency of their own preparation, for when it comes to doses they recommend from one-third to one minim *every hour,* an amount which is certainly not less than that of the official fluidextract, which is from one to two minims and usually given three or four times a day. More striking still were the results obtained with another preparation whose manufacturers claim that it is an aseptic permanent solution of the same strength as the tincture of the United States Pharmacopeia. Of three specimens examined, one seemed to be about half the strength of a tincture, while the other two bottles contained dark, muddy solutions not possessing the characteristic cardiac action of the digitalis series. One of these solutions when injected into the circulation lowered the blood pressure 23 per cent., giving a curve resembling that of the nitrites. The writers of the bulletin point out that this preparation is certainly not invariably a permanent solution, but may deteriorate and be positively harmful. When it is remembered that this preparation is especially recommended for hypodermic administration and that such a method is only employed where a rapid action is desired, the seriousness of the situation becomes more apparent. Such a preparation would be a menace to the "health of the sick."

An important need, emphasized by the appearance of this bulletin, is that of government supervision of the manufacture of preparations belonging to this series in the same way as the government now controls serum manufacture. Of the necessity of biologic standardization there can be no doubt, and while many pharmaceutical houses now maintain laboratories for this purpose there is no uniformity of method or of standard strength to which the preparations on the market under the same name must conform. Each maker has his own standard. The necessity of a uniform standard is great; the incorporation of such a standard in the next pharmacopeia would seem to offer no unsurmountable obstacles.

The appearance of a government bulletin of the scope of the present one and dealing with so valuable and much used a drug as digitalis is of considerable importance. It furnishes another indication of the widespread interest which is being taken in the production of pure drugs of a uniform strength.

1. Pharmacology Department, 1938.

SUBSTITUTES FOR THE WASSERMANN REACTION

Since the clinical value of Wassermann's complement-fixation test for syphilis has been pretty firmly established, numerous efforts[1] have been made to devise a substitute that is simple and more generally practicable. Most of these have depended on precipitate forma-

1. THE JOURNAL, April 3, 1909, p. 1113.

tion when syphilitic serums are treated with one of a variety of reagents. Thus Klausner, by diluting serum with distilled water, obtained with syphilitic serum a much more abundant precipitate than with other serums. Other observers have obtained similar results, using as a precipitant, dilute alcohol, solutions of lecithin, sodium taurocholate, or sodium glycocholate. But, unfortunately, none of these tests has proved constant enough to be of much value clinically.

A somewhat similar test has been reported by Noguchi,[2] who systematically examined the various constituents of spinal fluids and blood serums giving a positive Wassermann reaction, and found that the active substances (antibodies) were all precipitated with the euglobulin fraction of the proteins, on half saturation with ammonium sulphate. He further found that this fraction was constantly and materially increased in the syphilitic serums he examined, over that in normal and non-syphilitic serums, although there was not a quantitative relation between this increase and the intensity of the Wassermann reaction. Noguchi thinks that this increase in globulin is more constant than the Wassermann reaction, and that it bears a more definite relation to the activity of the disease. He also found an increase in the globulin in the spinal fluid in cases of tabes and general paresis.

His determinations were made by careful gravimetric methods, but he has devised a simple method for clinical use depending on the precipitation of the proteins in the spinal fluid by ten per cent. butyric acid solution. In positive cases a flocculent precipitate appears. In negative cases the fluid remains clear or becomes simply cloudy. He thinks the test is simpler and gives more definite results than Nonne's method of half saturating the fluid with ammonium sulphate. In a modified form he found the butyric acid test applicable to the blood serum.

The increase of globulin in the serum of syphilities has been previously described. It is probably this which gives rise to the precipitate formed by dilution of the serums in Klausner's reaction. But an increase in globulin has been reported by other observers in the serum of some non-syphilitic conditions as well. Hence, until the test has been extensively tried, it can not be accepted as a reliable substitute for the Wassermann reaction. Better results might be expected from its application to spinal fluids.

2. Jour. Exper. Med., January, 1909.

WHISKEY AND THE PUBLIC HEALTH

The National Model License League, an organization which claims to be working for the purification of the existing liquor business, has been utilizing a statement made by a distinguished physician in an address to the commercial bodies of Kentucky in their recent convention. Speaking of health matters in that state, this physician is quoted as saying that for every one death produced by whiskey 1,000 deaths have been caused by the drinking of impure milk; that for every single death produced by the drinking of whiskey there have been 5,000 deaths from the drinking of contaminated water. He prefaced this statement by a request that it should not be misunderstood or misinterpreted, but from the use to which it is being put it has certainly been misinterpreted and the attempt is made to make it still more generally misunderstood. The public is apt to accept generalities of this kind without allowing for the qualifications which may have been in the mind of the speaker. Furthermore, there are very few diseases which have not contributory factors to their mortality, and even moderate drinking habits affect the prognosis of disorders from which a total abstainer is comparatively safe. As a lay journal says, the apparently impressive and prodigious figures are not worth a straw as an argument. Certainly not in the way they are being used here. The case is another instance of the same kind that has heretofore been noticed in THE JOURNAL in which remarks are used in senses entirely different from those intended by the speaker or writer.

DESIDERATA IN BRITISH LIBRARIES

Professor Karl Pearson, the eminent authority on biometrics, writes to *Nature* of May 6, inquiring where a number of medical journals, or certain years of such, can be found in England, stating that they have been looked for at the likely places and it is possible that they exist and have not been found. It seems a curious thing that London, with its library of the British Museum and all its other medical and general libraries, should lack copies of such widely quoted periodicals as *Lo Spallanzani*, the *Archiv f. Psychiatrie u. Nervenkrankheiten* for the eighties, the *International Medical Magazine*, etc. There seems also to be no library in London containing a complete set of university dissertations and degree theses. This last probably would be found to be the case also in many, if not all, of our American libraries, though there are opportunities occasionally of acquiring them at comparatively small cost. Many of these theses contain valuable matter or worked up summaries of our knowledge on their special subjects, and, while they are not absolutely necessary, they may be badly wanted at times. If any one occupied in research wishes to verify his references he needs to have all the conveniences for that kind of work, and, though bibliography in scientific papers may be easily overdone, the facilities for it should not have too many limitations.

THE FRENCH BIRTH RATE

It is said that for the first time in many years the French birth rate is showing an upward tendency. Of late years it has been decreasing or stationary. The increase is small, only about 9,000 for the first six months of 1908, but it was accompanied with a corresponding decrease in the death rate of over 60,000. This would seem to indicate that the conditions that have been troubling the French sociologists for the past few years are improving.

THE ATLANTIC CITY SESSION

We learn as we go to press that the Session at present under way at Atlantic City bids fair to be one of the most successful in years and, though not characterized by any spectacular features, there is every evidence of good solid scientific work. The familiarity of so many members of the Association with Atlantic City and its methods, together with that city's perfected system of arranging for conventions, all tend to make matters move smoothly. The attendance so far is very good and may possibly exceed that of two years ago, though this is not probable. On the first day the registration was over 900, reaching 2,480 on Tuesday. A large number of physicians were in Atlantic City in advance of the convention, having come from other society meetings in the East and also to attend other meetings held at Atlantic City in connection with the Association's convention. Medical men were much in evidence last Sunday both in the hotels of the city and on the Boardwalk. Among other societies meeting at Atlantic City this week are the American Association of Medical Milk Commissions, the American Gastro-Enterological Association, the American Proctologic Society, the American Urological Association and the National Conference of State Medical Examining and Licensing Boards. The House of Delegates transacted its regular business with dispatch. It is impossible to print the minutes of the meeting in this issue of THE JOURNAL, but nearly all of the proceedings will appear in the June 19 issue. The general meeting, which was held according to schedule, was well attended, as were also the Section meetings which commenced Tuesday afternoon. The medical profession of Atlantic City is entertaining the visiting physicians in its usual generous style. A notable feature of the present session is the scientific exhibit; all the space available has been taken, there being nearly fifty participants. Many new features have been introduced and the tuberculosis exhibit is particularly fine. In all, there seems every reason to believe that the 1909 session will be one of the most satisfactory ever held.

Medical News

ALABAMA

Commencement Exercises.—On April 30, the annual commencement exercises of the Medical Department of the University of Alabama were held in Mobile, and a class of 29 was graduated. The address of the evening was given by Hon. John McDuffie, Monroeville, and John W. Abercrombie, president of the university, presented the diplomas.

Personal.—Dr. Samuel W. Welch, Talladega, has been elected a member of the State Board of Medical Examiners, vice Dr. Edward H. Sholl, Birmingham.——Dr. J. E. Shirley has been appointed resident physician of the Mobile City Hospital; Dr. S. S. Stubbs of the Southern Infirmary; Dr. S. C. Spencer of the Providence Infirmary; Dr. R. R. Ivey of the Alabama State Hospital, Tuscaloosa, and Dr. J. R. Oswalt of St. Margaret's Hospital, Montgomery.——Dr. Felix H. Craddock has been elected municipal health officer of Sylacauga, and Dr. Braxton B. Pugh of Ironaton.——Dr. Rufus L. Milligan has been elected city physician of Montgomery, vice Dr. Gaston J. Greil.

ARKANSAS

Personal.—Dr. William E. McLain has been elected city physician of Argenta.——Dr. Joseph J. Moncrieff, Beebe, has been appointed chief medical examiner of the National Consolidated Casualty Company, Little Rock.

City Hospital for Little Rock.—The City Hospital district, Little Rock, is about to issue bonds for $50,000. The Medical Department of the University of Arkansas has given assurance that as soon as actual work on the hospital is begun it will erect a $35,000 building beside it. It is believed that the former offers of $10,000 from the university, and of two lots for a site will be renewed.

Society Meetings.—The Arkansas Medical Society, at its thirty-third annual meeting held in Pine Bluff May 18-21, elected the following officers: President, Dr. James H. Lenow, Little Rock; vice-presidents, Drs. Harvey D. Wood, Fayetteville; Elbert L. Watson, Newport, and Forrest A. Corn, Lonoke; secretary, Dr. Morgan Smith, Little Rock; treasurer, Dr. John S. Wood, Hot Springs; delegate to the American Medical Association, Dr. Eugene C. Hay, Hot Springs; alternates, Drs. Charles C. Price, Douglas, and Buchanan Hatchett, Fort Smith; councilors, first district—Dr. Horace R. McCarroll, Walnut Ridge; third district—Dr. Samuel A. Southall, Lonoke; fifth district—Dr. H. H. Niehuss, Wesson; seventh district—Dr. James C. Wallis, Arkadelphia; and ninth district—Dr. Creed T. Cannady, Cotter; State Board of Medical Examiners, third district—Drs. Frank B. Young, Springdale; Frank B. Kirby, Harrison, and James H. Beard, Gentry; second district—Drs. Fred T. Murphy, Brinkley; Lemuel E. Willis, Newport, and Gus A. Warren, Blackrock; sixth district—Drs. William S. Stewart, Pine Bluff; John L. Butler, Sheridan, and L. H. Barry, Hot Springs; seventh district—Drs. James C. Wallis, Arkadelphia; James T. Henry, Eagle Mills, and John A. Moore, Lisbon. Dr. C. P. Merriwether was selected as assistant editor of the journal of the society. The society decided to hold its 1910 meeting at Little Rock.——At the annual meeting of Carroll County Medical Society, held in Eureka Springs, May 12, the following officers were elected: President, Dr. John D. Jordan; vice-president, Dr. Russell G. Floyd; secretary, Dr. Henry Pace, and delegates to the state society, Dr. Floyd, all of Eureka Springs, and Dr. Charles A. George, Berryville.

COLORADO

State Board Members Appointed.—On May 17, the governor appointed the following members of the State Board of Medical Examiners: Drs. William W. Rowan, Ouray; Miller E. Preston, Denver, and David A. Strickler, Denver.

DELAWARE

Antituberculosis Society Elects Officers.—At the meeting of the directors of the Delaware Tuberculosis Society, held in Wilmington, May 4, the following officers were elected: Honorary president, Dr. John J. Black, Newcastle; vice-presidents, Drs. Harold L. Springer and Irvine M. Flinn, Wilmington; chairman of farm committee, Dr. Peter W. Tomlinson, Wilmington; admission and dismission committee, Drs. Joseph P. Wales, Albert Robin, Irvine M. Flinn, and Harold L. Springer, and chairman of educational committee, Dr. Albert Robin, all of Wilmington.

Governor Appoints Commission.—The governor has appointed the following medical members of the State Tuberculosis Commission: Drs. Peter W. Tomlinson, B. L. Lewis and W. F. Haynes, whose duty it is to arrange dispensaries in each county and make sanatorium arrangements for tuberculosis patients. He also appointed Drs. Harold L. Springer and Irvine M. Flinn, both of Wilmington, members of the State Board of Examiners of Graduate Nurses. He has also issued commissions to Drs. John J. Black, Newcastle, and James J. White, Dover, reappointed trustees of the State Hospital, Farnhurst.

ILLINOIS

Change of Proprietorship.—The interest of Dr. Everett H. Butterfield, Ottawa, in the Ottawa Tent Colony, has been sold to H. B. Pettit, superintendent of the institution, son of Dr. James W. Pettitt, and the entire control of the institution is now in the hands of Dr. Pettit and his son.

Personal.—Dr. George H. Stacy has resigned as pathologist to the Illinois Central Hospital for the Insane, Jacksonville, and will practice in that city.——Dr. Martha Hayward has been appointed superintendent of the Aurora City Hospital.——Dr. Arthur P. Leipold, Moline, has been elected supreme medical examiner for the state of the Home Fraternal League.——Dr. William H. Ludewig has been elected president of the Rock Island Board of Health.——Dr. Flint Bondurant has been appointed bacteriologist in the office of the State Board of Health, Springfield.

Smallpox in Illinois.—According to the report of the Public Health and Marine-Hospital Service on May 21, more than

one-eighth of all the smallpox in the United States between January 1 and June 1, was reported in Illinois. Of the total 9,960 cases in the country, 1,275 were reported from Illinois, but only 11 of these were found in Cook county.——Dr. Charles E. Crawford, Rockford, state health officer, is said to have found 72 cases of smallpox in Marengo in 41 families. The patients are all under quarantine, and the regulations are being well observed.

Chicago

Personal.—Dr. William A. Pusey has been elected president of the American Dermatological Association.——Dr. and Mrs. Bernard Fantus will sail for Europe June 15.

Commencements.—At the banquet which closed the commencement exercises of Rush Medical College, June 1, Dr. Henry B. Favill gave an address on "Medicine in the Scheme of Conservation." The president of the university announced that the college will start next year free from debt, which has been cleared away by the generosity of the members of the board of trustees. The degree of doctor of medicine was conferred on a class of 57. Fellowships in special subjects and prizes were conferred on 8 members of the class. The doctorate address was delivered by President Edward J. James of the University of Illinois.——The twenty-seventh annual commencement exercises of the College of Physicians and Surgeons, Chicago, the College of Medicine of the University of Illinois, were held June 5, when a class of 131 was graduated. The doctorate address was delivered by Dr. William E. Quine on "The Doctor and Religion."

INDIANA

April Sickness and Death.—During April, there were reported to the State Board of Health, 3,212 deaths, equivalent to an annual death rate of 14.3 per 1,000, or an 8 per cent. increase, as compared with April, 1908. There was also an increase in the morbidity of 10 per cent. Deaths under 1 year of age numbered 424, or 13.9 per cent. of the total deaths, and the deaths of individuals over 65 years of age were 1,044, or 33.3 per cent. of the total. Consumption caused 427 deaths, pneumonia 452, or 120 more than for the same month last year. There were 158 cases of typhoid fever reported in 24 counties, with 33 deaths, and 60 cases of diphtheria from 21 counties with 9 deaths. There were reported 176 deaths from violence, 8 of which were homicides and 31 suicides. The most prevalent disease of the month was tonsillitis.

Personal.—Dr. Jacob B. Casebeer, Auburn, went to Ann Arbor for operation May 25.——Dr. Edgar F. Kiser, superintendent of the City Dispensary, Indianapolis, has resigned.——Dr. Charles J. Overman has succeeded Dr. Edwin O. Harrold, resigned, as city health officer of Marion.——Drs. William F. Sharrer and William R. Quick have been appointed members of the board of health of Delphi.——Dr. Solomon G. Smelser, Shirley, has been appointed a member of the State Board of Medical Registration and Examination.——Drs. Charles P. Cook and Walter J. Leach, New Albany, have left for Europe.——Drs. J. H. William Meyer and Bo Carr Bowell have resigned as members of the LaPorte Board of Health.——Dr. Edward Linthicum, Evansville, was operated on in St. Luke's Hospital, Chicago, recently.——Dr. Harry N. Swezey has been made a member of the board of public works of Marion.——Dr. Jonas Stewart, Anderson, slipped and fell down a stairway May 15, sustaining severe injuries.——Dr. Calvin I. Fletcher, Indianapolis, has returned from Europe.

KENTUCKY

Railway Surgeons Meet.—The fifth annual meeting of the Kentucky State Railway Surgeons' Association was held in Newport May 26 and 27. The following officers were elected: President, Dr. John L. Phythian, Newport; vice-presidents, Drs. Charles G. Daugherty, Paris; Albert S. Brady, Greenup, and James B. Kinnaird, Lancaster, and treasurer, Dr. Clarence H. Vaught, Richmond. The association decided hereafter to publish its own journal, and to hold its next meeting at Ashland in May, 1910.

Personal.—Dr. Florence Meder, Louisville, has been promoted to second assistant physician at the Central Kentucky Hospital, Lakeland, vice Dr. John K. Wood, Bowling Green, resigned on account of ill health, and Dr. Samuel Young, Murray, has been named third assistant physician.——Dr. Frank P. Strickler, Elizabethtown, has been elected president, and Dr. Charles Z. Aud, Cecilian, secretary and health officer, of the Harden County Board of Health.——Dr. James W. Griffin, Lewisport, has been elected president and Dr. James W. Knox, Lewisport, re-elected health officer and secretary of the Board of Health of Hancock county.

LOUISIANA

Personal.—Dr. George Dock, New Orleans, sails this week for England and the continent. He will attend the International Medical Congress at Buda-Pest.——Dr. E. Dunbar Newell has moved from St. Joseph to Chattanooga, Tenn., where, with his brother, Dr. Edward T., he is in charge of the Newell & Newell Infirmary.——Dr. Irving Hardesty, professor and head of the department of anatomy in the University of California, has been appointed to a similar position in Tulane University, New Orleans.——Dr. Joseph A. Estopinal, New Orleans, secretary of the State Board of Health, has resigned to accept the position of special medical inspector in Havana. He has been succeeded by Dr. Edward S. Kelley.

MARYLAND

Presentation.—Dr. James S. Woodward, who for more than twenty years has been resident surgeon to the Maryland Steel Company, at Sparrows Point, near Baltimore, and who recently resigned, on May 27, was presented by his friends with a silver loving-cup, whose three handles bore the engraved words "Physician," "Neighbor," "Friend."

Charge Against Justice of the Peace.—Dr. Marshall L. Price, secretary of the State Board of Health, has filed with the governor charges against Justice of the Peace Hartle, Hagerstown, alleging that the justice dismissed the case of an undertaker of Williamsport who was accused of the violation of the law relating to burial permits, without hearing the witness for the state, and that he had conspired with a public school teacher, charged with permitting pupils not vaccinated to attend the school, thereby defeating the administration of justice. The governor has asked for a prompt explanation from the justice.

Baltimore

Commencement.—Maryland Medical College celebrated its eleventh annual commencement June 1, when degrees were conferred on a class of 31 by Dr. Harry Gross. The introductory address was made by Dr. Bernard P. Muse, and the address to the graduates was made by the secretary of state of Maryland, Hon. N. Winslow Williams.

Personal.—Dr. William F. Shellenberger of the resident staff of Johns Hopkins Hospital, was operated on for appendicitis May 25.——Dr. Henry H. Imhof was slightly injured in a street car collision, May 26.——Dr. Anna D. Schultz has been elected president of the Alumni Association of the Woman's Medical College.——Dr. J. Clagett Robertson was operated on at St. John's Hospital a few days ago.——Dr. Silas Baldwin was injured by a runaway horse, May 30.——Dr. D. C. Absher, who was operated on at University Hospital for appendicitis, May 18, has recovered.——Dr. J. T. Coughlin has been appointed chief resident physician of St. Joseph's Hospital, vice Dr. E. G. McFarland.——Drs. W. Preston Miller and William T. Watson sailed for Europe June 3.——Dr. Llewellys F. Barker has gone to Europe and Dr. Roland Whitridge to Spain for the summer.——Dr. William S. Thayer will visit Dr. William Osler in Oxford this summer.

MICHIGAN

Personal.—Dr. Oscar C. Breitenbach, Escanaba, has been removed from Wesley Hospital, Chicago, to Evanston, Ill., and his condition is much improved and speedy convalescence is anticipated.——Dr. John W. Bosman, Kalamazoo, has been appointed local surgeon for the Grand Trunk Railroad.——Dr. Clyde C. Slemons has been elected city bacteriologist of Grand Rapids.

April Mortality.—During April there were 3,394 deaths reported to the department of health, equivalent to an annual mortality of 15.5 per 1,000. Of these, 615 were of infants under 1 year of age; 217 of children from 1 to 5, inclusive, and 1,140 of individuals 65 years of age or over. Chief among death causes were pneumonia, 317; tuberculosis, 254; violence, 150; cancer, 139; influenza, 74; measles, 59; meningitis, 55; diarrhea and enteritis, 46; typhoid fever, 40; diphtheria, 38; whooping cough, 27, and scarlet fever, 16.

MISSOURI

Personal.—Dr. Thomas E. Graham has resigned as assistant physician at State Hospital No. 2, St. Joseph.——Dr. Frank B. Hiller, Kahoka, has been appointed a member of the State Board of Health, vice Dr. Robert H. Goodier, Hannibal, and Dr. Ernest F. Robinson, Kansas City, to succeed Dr. Walter S. Thompson, Armstrong.——Dr. John M. Bell has resigned as a member of the faculty of Ensworth Medical College, St.

Joseph.——Dr. Porter E. Williams, superintendent of State Hospital No. 1, Fulton, retired from that position June 8.

St. Louis

Memorial Meeting.—A memorial meeting was held by the St. Louis Medical Society, May 30, at which memorial addresses were delivered by Dr. Willard Bartlett on "Dr. Hugo A. Auler," by Dr. Albert H. Meisenbach on "Dr. Benno Bribach," and by Dr. Henry J. C. Sieving on "Dr. Hugo W. Bartscher," and by Dr. William M. Baker on "Dr. Michael P. Reynolds."

New Building for Medical School.—Dr. William H. Warren, dean of the Medical School of Washington University, announced May 26, at the annual banquet of the Alumni Association, that a $250,000 building is to be erected on the university campus for the use of students during the first two years of their medical course. On May 27, the annual commencement exercises were held, when the degree of M.D. was conferred by Chancellor David Franklin Houston of the University, on a class of 48.

NEW YORK

Commencement.—The annual commencement exercises of Albany Medical College were held May 18. The essayist was Dr. William H. Davidson, the address to the graduating class was given by Dr. Abraham Jacobi, New York City, and Rev. Charles A. Richmond, acting chancellor of Union University, conferred degrees on a class of 40.

New York City

Fire in Hospital.—In a fire which occurred in the children's ward of the King's County Hospital, Brooklyn, May 22, sixty crippled children were removed by physicians and nurses uninjured.

Laboratory for Inoculation Experimentation.—Plans have been filed for a laboratory to cost about $10,000, to be constructed on the roof of the College of Physicians and Surgeons for the purpose of inoculation experimentation.

Personal.—Dr. Louis L. Seaman returned from Africa, June 4.——Paul A. Lewis has been appointed associate in pathology, F. Peyton Rous, assistant in pathology, and Angelia M. Courtney, scholar in chemistry by the board of directors of the Rockefeller Institute for Medical Research.——A dinner was tendered by the sisters in charge of St. Mary's Hospital, Jamaica, May 27, to Drs. James J. Crawford, Albert L. Voltz, August G. Maron, and Hanford Pattengill, present and past internes of the hospital, and each of the guests of honor was presented with a physician's hand satchel.——Dr. and Mrs. John E. Weeks sailed for Europe May 28.

Buffalo

Commencement.—The annual commencement exercises of the University of Buffalo were held May 28. The principal address was delivered by Mr. Adelbert Moot.

Personal.—Drs. Lucien Howe and F. Park Lewis have returned from Naples.——Drs. James H. Carr and J. Walter Fitzgerald have started for Europe.——Dr. William G. Taylor has returned after a two months' vacation in Cuba and Mexico.

Hospital Dedicated.—The Harrington Hospital for Children of the Buffalo General Hospital was dedicated with appropriate ceremonies May 28. Charles W. Pardee, president of the General Hospital, presided and delivered the principal address. The building, which is a memorial to the late Dr. Devillo W. Harrington, is located on Goodrich street, directly back of the General Hospital. The building is constructed of buff brick and iron; is fire-proof, two stories in height, with a main building and two wings which enclose a court. The top floor of the building is to be devoted to the use of nursing infants, mothers, and young children. The main floor will be devoted entirely to medical and surgical wards, and rooms for older children, and the basement will be used for isolation cases and for observation of suspicious cases.

OREGON

New Hospital.—Multnomah county has secured possession of the site for the county hospital at Fourth and Hooker streets, Portland, and in a few weeks the building will be ready for occupancy. It will accommodate about 100 patients.

Elections.—At the annual meeting of the Portland City and County Medical Society, held in Portland, May 19, the following officers were elected: President, Dr. Alan W. Smith; vice-president, Dr. Alpha E. Rockey; secretary, Dr. George S. Whiteside; treasurer, Dr. Stuart H. Sheldon, and Board of councilors, Drs. Joseph A. Pettit, Ben Norden and Luther H. Hamilton. It was decided to continue the meetings through the summer months, and four additional vice-presidents were selected to preside when occasion required, namely, Drs. Noble W. Jones, Ferdinand H. Dammasch, Robert J. March, and Albert E. Mackey.——The annual meeting of the Southern Oregon Medical Association was held at Grass Pass May 11. Dr. Robert J. Conroy, Medford, was elected president; Dr. Beaver, Ashland, vice-president, and Dr. Alvane C. Seeley, Roseburg, secretary-treasurer.

PENNSYLVANIA

Philadelphia

Personal.—Drs. J. A. Bayard Kane and George W. Bailey sailed for Europe June 5.——Drs. Anna L. Bacon and Mary J. Rochelle were appointed probation officers of the Juvenile Court, June 4.——Dr. John W. Rhein, who was operated on in the Howard Hospital recently for appendicitis, is convalescing.——Dr. Henry W. Stelwagon entertained Dr. George Pernet of London, Eng., and the members of the American Dermatological Society at luncheon at his residence, June 3.——Dr. and Mrs. James A. Irwin sail from New York for Italy, June 12.——Dr. W. M. Late Coplin, director of the Jefferson College Hospital, was presented with a silver loving-cup by the members of the hospital staff, June 7.

Commencements.—The eighty-seventh annual commencement of Jefferson Medical College was held June 7. A class of 140 was graduated and the annual address was delivered by Col. William C. Gorgas, Medical Corps, U. S. Army, and president of the American Medical Association, who spoke on "Sanitation of the Isthmus of Panama." The degrees were conferred by the president, Hon. William Potter.——The twenty-ninth annual commencement of the Medico-Chirurgical College was held June 5, when a class of 80 received diplomas and the annual address was delivered by the Hon. Chauncey M. Depew of New York. The degrees were conferred by the Hon. Henry F. Walton, president of the Board of Trustees.

RHODE ISLAND

State Society Meeting.—The ninety-eighth annual meeting of the Rhode Island Medical Society was held in Providence, June 1. The following officers were elected: President, Dr. Eugene Kingman, Providence; vice-presidents, Dr. Augustine A. Mann, Central Falls, and Dr. Frederick T. Rogers, Providence; secretary, Dr. Stephen A. Welch, Providence; treasurer, Dr. George S. Mathews, Providence; auditor, Dr. William H. Buffum, Providence; curator, Dr. William J. McCaw, Providence, and delegate to the American Medical Association for two years, Dr. John Champlin, Westerly.

VIRGINIA

Faculty Elects Officers.—At the annual meeting of the faculty of the Medical College of Virginia, Richmond, held May 29, Dr. William H. Taylor was re-elected chairman; Dr. Christopher Tompkins, dean, and Dr. Frank M. Reade, secretary.

Elections.—Members of the Alumni Society of the University College of Medicine, Richmond, elected the following officers, May 19: President, Dr. H. B. Mahood, Emporia; vice-presidents, Drs. Joseph N. Barney, Fredericksburg; Joseph B. Bailey, Clayville, and Wyatt S. Beazley, Richmond; secretary, Dr. McCaw Tompkins, Richmond; assistant secretary, Dr. Daniel T. Bailey, and treasurer, Dr. Frank H. Beadles.——The Virginia Conference on Charities and Corrections, at its meeting in Lynchburg, May 18, elected J. T. Mastin, Richmond, president; Dr. Lawrence T. Royster, Norfolk, vice-president, and Drs. William F. Drewry, Petersburg; Roy K. Flannagan, Charlottesville, and Ennion G. Williams, Richmond, members of the executive committee. Surgeon Charles B. Wertenbaker, Norfolk, P. H. and M.-H. Service, prepared a paper on "Practical Methods for the Suppression of Tuberculosis in Virginia," which was read by Dr. Ennion G. Williams in the absence of the writer. He advocated the formation of a state antituberculosis league with representatives, and that there be organized simultaneously in every city, town and village in the state a branch of the league in order that the work of suppression of tuberculosis may be started at once.——A postgraduate school for physicians was organized by the Augusta County Medical Society at Staunton, May 12, with the following officers: Dean, Dr. Marshall J. Payne; vice-dean, Dr. John B. Catlett, and recorder, Dr. Kenneth Bradford.——At the annual meeting of the University College General

Alumni Association in Richmond, May 17, the following officers were elected: President, Dr. George A. McAllister, and vice-presidents, Dr. C. T. Womack, Martinsville, of the dental department, and Miss Maude Lambert, Roanoke, of the pharmacy department.

GENERAL NEWS AND COMMENT

A Well-Merited Honor.—The honorary degree of doctor of science was conferred on Surgeon Rupert Blue, U. S. P. H. and M.-H. Service, by the University of Maryland, at its recent convocation, on account of the services rendered by Dr. Blue during the recent epidemic of bubonic plague in San Francisco.

Psychologists Meet.—At the sixty-fifth meeting of the American Medico-Psychological Association held in Atlantic City, June 1-4, the following officers were elected: President, Dr. William F. Drewry, Petersburg, Va.; vice-president, Dr. Charles W. Pilgrim, Poughkeepsie, N. Y.; and secretary and treasurer, Dr. Charles G. Wagner, Binghamton, N. Y.

Dermatologists Elect Officers.—At the annual meeting of the American Dermatological Society, held in Philadelphia, June 3-4, the following officers were elected: President, Dr. William A. Pusey, of Chicago; vice-president, Dr. Grover W. Wende, of Buffalo, N. Y., and secretary and treasurer, Dr. James McF. Winfield, of Brooklyn, N. Y. Dr. Alfred Fournier, of Paris, France, was admitted to honorary membership. The next meeting of the association will be held in Washington in 1910.

Academy Election.—At the annual meeting of the American Academy of Medicine, held in Atlantic City, June 7, the following officers were elected: President, Dr. James H. McBride, Pasadena, Cal.; vice-presidents, Drs. Philip Zenner, Cincinnati; W. Blair Stewart, Atlantic City; Ruth Webster Lathrop, Philadelphia, and Hanau W. Loeb, St. Louis, and secretary-treasurer, Dr. Charles McIntire, Easton, Pa. (reelected). Contract practice was discussed as a solution for the problem of securing medical care for wage-earners at a small cost.

Climatologic Meeting.—At the annual meeting of the American Climatological Association, held in Fortress Monroe, Va., June 4-5, the following officers were elected: Presidents, Dr. Edward R. Baldwin, Saranac Lake, N. Y.; vice-presidents, Drs. James M. Anders, Philadelphia, and H. Longstreet Taylor, St. Paul, Minn.; secretary-treasurer, Dr. Guy Hinsdale, Hot Springs, Va.; councilor, Dr. Charles E. Quimby, New York City; representative to the executive committee of the Congress of American Physicians and Surgeons, Dr. Roland G. Curtin, Philadelphia, and alternate, Dr. Thomas Darlington, New York City.

Surgeons' Annual Meeting.—The annual meeting of the American Surgical Association was held in Philadelphia June 3-5. The principal interest was centered in the symposium on "Thoracic Surgery," which was opened by a paper presented by Professor Friedrich, of Marburg, Germany. Professor Tuffier of Paris, France, who was to have read a paper in conjunction with Professor Friedrich, did not arrive. The following officers were elected: President, Dr. Rudolph Matas, New Orleans; vice-president, Drs. John M. T. Finney, Baltimore, and George H. Monks, Boston; secretary, Dr. Robert G. LeConte, Philadelphia; recorder, Dr. Richard H. Harte, Philadelphia, and treasurer, Dr. Charles A. Powers, Denver. The society will meet next year in Washington.

Conference of Charities and Corrections.—The National Conference of Charities and Corrections will be held in Buffalo, N. Y., June 14-16, inclusive. In connection with the conference, there will be exhibits by the Playground Association of America of model playgrounds; by the Committee on Children, who will illustrate the modern methods of work for dependent children; by the George Junior Republic, on what the boy can do; and by the Committee on Families and Neighborhoods on plans for removal of congestion in great cities. The following topics on the program are of special interest to the medical profession:

Industrial Insurance—Lee K. Frankel.
Statistics Relating to Children—Homer Folks.
Report of the Committee on Defectives.
Progress in the Care of the Insane—Frank B. Sanborn.
Care of the Criminal Insane—Dr. Thomas C. Fitzsimmons.
The Eastern New York Custodial Asylum—Franklin B. Kirkbride.
What is Being Done in the Psychological Study of the Feeble Minded—Dr. Henry H. Goddard.
Effects of Industry of Women and Children in the Stock Yards District—Miss Mary E. McDowell.
Statistics of Public Outdoor Relief—Dr. Thomas J. Riley.
After Care of Institution Children—Brother Barnabas.
Public Recreation—Dr. L. H. Gulick.
Sending Consumptives from Home—Rev. W. S. Friedman.
Means of Safeguarding the Sale of Narcotics—William Jay Schieffelin.
The Medical Supervision of Schools—Dr. George H. Leslie.
Press and Publicity in Child-caring Work, Public Health Work, etc.
The Food Supplies of Charitable and Semi-Charitable Institutions—Dr. Harvey W. Wiley.
Diet for Tuberculous Patients—Dr. Herbert Maxon King.
The Responsibilities and Opportunities of a Health Officer—Roy Smith Wallace.
The Coordinate Responsibilities of Boards of Health, Boards of Education and Park Boards in Relation to the Welfare of Children—Dr. Luther H. Gulick.
Responsibilities of Civic Authorities in Relation to Immigrants—Dr. Peter H. Bryce.

The Carroll Fund.—The following subscriptions have been received since the last report:

Medical officers of the army	$ 40.00
Illinois State Medical Society, Ottawa, Ill.	500.00
North Dakota Medical Assn., Casselton, N. D.	100.00
Adams County Medical Society, Natchez, Miss.	20.00
New York and New England Assoc. Railway Surgeons, Oswego, N. Y.	5.00
Dr. H. McM. Painter, New York City	10.00
Dr. H. A. L. Ryfkogel, San Francisco, Cal.	5.00
Dr. Harold Seidelin, Merida, Yucatan, Mexico (U. S. Cur.)	4.99
Dr. W. S. Gardner, Bronx, New York City	1.00
Dr. Hermann Grad, New York City	5.00
Dr. Calvin Gates Page, Boston, Mass.	2.00
Medical Society of the Borough of the Bronx, New York	25.00
Dr. H. S. Steensland, Syracuse, N. Y.	3.00
Louisiana State Medical Society	150.00
Calhoun County Medical Society, Battle Creek, Mich.	15.00
Dr. W. F. Grinstead, Ottawa, Ill.	50.00
Dr. Frank Billings, Ottawa, Ill.	25.00
Dr. J. F. Percy, Ottawa, Ill.	25.00
Dr. E. W. Weis, Ottawa, Ill.	5.00
Dr. Joseph L. Abt, Ottawa, Ill.	5.00
Dr. H. A. Pattison, Ottawa, Ill.	5.00
Dr. C. D. Pence, Ottawa, Ill.	5.00
Dr. G. W. Greene, Ottawa, Ill.	5.00
Dr. V. A. McClanahan, Ottawa, Ill.	1.00
Dr. J. P. Simpson, Ottawa, Ill.	1.00
	$1,012.99
Previously reported	4,155.65
	$5,168.64

The debt on the Carroll property to-day amounts to $7,150. The interest on the $5,000 mortgage ($125) will fall due June 15. There is on hand in bank to-day to pay this indebtedness $5,700.82, which leaves $1,449.18 to be raised. The profession of this country will certainly give this amount to save the home of the widow of James Carroll.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, May 22, 1909.

Reform of the Indian Medical Service

The vast native population of India has for many years been dependent for medical treatment almost entirely on the medical officers of the Indian army. Naturally, the strain of even the hospital treatment of serious disease—which is all that could be attempted—has been very great on this service. The government has at last decided that no further increase of its civil work can be allowed, and that it would be a great advantage to India if physicians would establish themselves there in private practice as in other parts of the empire without entering the army service. As usual, the problem how they are to be paid does not seem to have troubled the government. The Indian population is abjectly very poor and very few could afford even the most modest fees.

A Memorial to Harold Barnard

A committee composed of members of the staff of the London Hospital, has been formed to publish a memorial volume of their late colleague, Mr. Harold Barnard, whose death was announced a short time ago in THE JOURNAL. It is proposed to publish a memorial volume containing all his contributions to abdominal surgery, illustrated by drawings by two of his pupils—Dr. F. Wood Jones and Mr. S. Beale—who had been engaged by Barnard to make them from his specimens.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, May 27, 1909.

Insurance of the Physician Against Civil Professional Liability

The physician is always exposed to action at law for errors, real or pretended, committed in the course of medical treat-

ment or of a surgical operation. Recently, a woman made a complaint to the Parquet of the Department of the Seine, concerning the death of her son under chloroform anesthesia administered in a Paris hospital for an operation. The woman asserts that the chloroform was administered by an interne without the surveillance of the operating surgeon, and contends that this fact constitutes a grave fault. In course of law the woman will be able to bring a civil action and claim heavy damages. Proceedings of this kind have suggested to certain insurance companies, which are always seeking to extend their field, to offer physicians insurance against this civil liability. By means of a moderate premium this insurance will make it possible for the physician to protect himself from payment of damages, often very heavy; and, further, it will relieve him from the vexations and worry of a lawsuit. Whether these advantages are real or problematical, there is a question which appears much more important, namely, whether such insurance is not incompatible with the professional dignity of the physician; and moreover—an indication of the times!—in one of our medical journals, we read under the heading, "Notice to the Medical Profession," the following advertisement: "In consequence of an agreement between this journal and La Foncière, one of the oldest and most important insurance companies in France, our subscribers are gratuitously insured against their civil professional liability. By the sole fact of paying their subscription they are covered during its course to the extent of 2,000 francs against pecuniary liabilities on account of bodily accidents involving their civil responsibility." The journal adds that by signing a supplementary personal contract and paying a premium, the subscriber may extend the gratuitous guarantee of 2,000 francs to a much greater figure.

Medical journals ought truly to show themselves more solicitous for the dignity of our profession and for the true interests of the body medical. It is satisfactory to know that this question of insurance against civil professional liability was recently discussed at the *Association de médecins* of Geneva, and that the essayist, Dr. Eugene Patry, showed himself in his conclusions, which were unanimously adopted by the association, distinctly opposed to such insurance. Regarding it first from a practical viewpoint, Patry thinks that the insurance company, seeking to make the greatest possible profits, will not always keep its engagements to the physician and will not cover all the cases. But alongside its more or less problematical advantages, medical insurance against civil liability presents also tangible inconveniences; for, if it should come into conflict with morals, it would risk diminishing the confidence of the public in physicians, which is the very foundation of our career. The Geneva association agrees with Dr. Patry, that it is more dignified for the physician courageously to bear alone the liability for his actions, than to cover himself by insurance. The only case in which medical insurance, according to Dr. Patry, can be justified, is when the physician has under his orders a medical or nursing *personnel* for whom he is civilly responsible. It is quite natural that in such case, a confrère, not wishing to be held responsible for the operative fault of an assistant or for an error in the administration of a remedy, should insure his *personnel;* but in such a case the insurance should clearly comprise only the errors of the *personnel* under the orders of the chief of service, and not those made by the chief himself.

Compulsory Notification of Contagious Diseases

The law of 1902 imposes on the physician in charge of the case the obligation of reporting a contagious disease. The medical profession has always protested against this regulation, and about six months ago the Academy of Medicine passed a resolution that the obligation should be binding jointly on the head of the family, or head of the establishment and the physician in charge (THE JOURNAL, Dec. 5, 1908, p. 1985). A draft of a law has been laid before the senate which places on the head of a family or of an establishment the obligation of making the notification after the physician has warned him of the nature of the malady. The physician is under obligation to present to his patient a notification bulletin, for which he is to demand a receipt. In case the physician does not receive within forty-eight hours an acknowledgement of the bulletin from the sanitary authority, he must make the notification himself. In case the interested person should refuse to give the prescribed receipt, the physician is required to make a notification. Refusal to comply with the law is to be punished by fines varying from 50 to 100 francs ($10 to $20).

A Physician Sentenced for Giving Fraudulent Certificates

A Paris physician has just been sentenced to three months in prison, a fine of 100 francs ($20), and a year's suspension from the practice of his profession for issuing to a laborer a fraudulent medical certificate which permitted the latter, though completely recovered from an injury incurred in his work, to draw an invalid's half-pay from his employer while working for another employer.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, May 21, 1909.

Appendicitis—A Collective Investigation by the Berlin Medical Society

Three years ago the Berlin Medical Society determined to institute a collective investigation on appendicitis in the practice of Berlin physicians and hospitals, in order to clear up some unsettled points regarding this disease. A commission was chosen under whose direction the statistical investigation was made which included the entire year 1907. Prof. Albu and Rotter reported the results for the commission at the meeting of the society on May 12. The participation of practicing physicians in the investigation was, as usually happens, quite insignificant; altogether scarcely 8 per cent. reported their experience. On the other hand, the cases treated in the hospital were quite completely reported; 2,705 cases of acute typhlitis were reported, of these 2,365 were in hospital, 340 at home. The mortality in the hospital cases was 214 (9 per cent.), of those treated at home 6 (1.7 per cent.) there were 1,344 operations in hospitals with 197 deaths (14.6 per cent.), 105 were operated on on the first day with the mortality of 1 (0.9 per cent.), on the second day 318, mortality 23 (7 per cent.); the total mortality of cases operated on in the first two days was 5.6 per cent. On the third day and after (late operation) there were 921 operations with a mortality of 18.8 per cent. (third day 238 operations, mortality 23 or 10 per cent., later operations 683, mortality 150 or 23 per cent.); 1,021 were not operated on, either because it was not necessary or because they were hopeless cases; the mortality was 17 (1.6 per cent.). Different ages showed marked differences in the mortality (0-10 years, mortality 17.4 per cent.; 10-20, 5.3 per cent.; 20-30, 10 per cent.; 30-50, 21 per cent.; 50-70, 80 per cent.). Interval operations were carried on for chronic appendicitis in 97 cases, after an acute attack in 805 cases, total 902 cases with a mortality of 9 (0.9 per cent.). As the result of this investigation Prof. Rotter affirms the principle that the early operation, under all circumstances, promises the best results.

Mortality in the Larger Cities of Germany

According to a publication by the Imperial Health Office, the population of 327 German cities with at least 15,000 inhabitants increased in 1907 from 20,900,000 to about 21,500,000, the number of live births was reduced from 647,541 to 645,686, and the number of stillbirths increased from 20,165 to 20,282. The mortality figure has fallen a little. The mortality of infants per 100 born living sank from 18.6 to 17.1. As far as the causes of death are concerned, there was an increase in deaths from diseases of the respiratory organs, scarlet fever, diphtheria, puerperal fever, and accidents but a decrease in mortality from typhoid, measles, pertussis, gastrointestinal catarrh and suicide. The mortality of tuberculosis has proportionately decreased.

The Fight Against Lupus

The commission appointed to conduct the campaign against lupus proposes to favor the establishment of lupus sanatoria, to assist in the provision of apparatus for phototherapy, to favor the establishment of rooms for lupus patients in the neighborhood of the sanatoria, to provide for the gratuitous treatment and assistance in other ways of needy lupus patients, and to develop as much as possible the methods for the treatment and care of lupus. That increased efforts are necessary to combat lupus has been shown by a collective investigation according to which the number of known lupus patients under treatment in Germany is about 11,000 and the entire number of lupus patients in Germany is estimated at about 30,000.

Death of Professor von Ranke

A few days ago Professor von Ranke, formerly director of the Munich children's clinic, died at the age of 79. He was educated at the university under teachers like Johannes

Müller, Gorup-Besanez, Romberg, and Wunderlich, and was an assistant of Johannes Müller and Hugo Mohl. He went in 1854 to London as house physician of the German hospital, and served under the British government in 1855 and 1856 as civilian surgeon in Smyrna and the Crimea. In 1859 he entered the faculty at Munich. In 1866 he established the children's policlinic in Munich, one of the first children's policlinics in Germany. He has published numerous studies on metabolism, especially of children, as well as a large number of investigations in clinical pediatrics. He was one of the first to make a trial of O'Dwyer's intubation of the larynx and to publish his results. Three years ago he resigned his position as director of the children's clinic, and was succeeded by Professor Pfaundler, a pupil of Escherich.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, May 21, 1909.

Memorial to Auenbrugger

On May 18 a commemoration tablet was unveiled in memory of the centenary of the death of Leopold Auenbrugger, who was the first to use percussion of the chest in diagnosis. He was born in Graz in 1722. His studies of physical phenomena led him to apply the rules of acoustics to medicine and his work on examination of the thorax by a new and wonderful method contains much of what is known at present of percussion. Dr. Auenbrugger did not live to see the universal adoption of his discovery, for it was several years before the bulk of the profession had become convinced of the accuracy and truth of his observations. The method was rediscovered later on several times in different countries, but this does not detract from the priority and usefulness of Auenbrugger's discovery. The Vienna Medical Society (*Wiener medicinisches Doktorenkollegium*) celebrated the day impressively, and some of the descendants of the physician were present at the ceremony of unveiling the tablet.

The German Birth Rate in Austria

In an interesting compilation of statistical data, Dr. Hainisch recently pointed out that the vitality of the German race among the numerous nations composing the Austrian empire is increasing remarkably. In 1880-1885 the excess of births over deaths was in this country 5.17 per 1,000 Germans, against 10.09 amongst the northern Slavonic nation, 7.73 amongst the southern Slavs, and 8.34 amongst the Italo-Slavs, while in Tyrol the Germans had a rate of only 0.31 as against one of 5.92 of the purely Italian population. Regular and constant records kept by the statistical bureau of the ministry of the interior reveal a distinct and constantly increasing tendency in the German race to improve its vitality and lower its mortality. Thus the years 1901-1905 show that the excess of births over deaths in the purely German districts is now 9.58 per 1,000, among the northern Slavs 11.88, among the southern Slavs 10.63, while Tyrol showed 7.95 for the German part of the population, but 8.50 for the Italian component. The German increase of population was even smaller than that of the other nations, but it had increased by 85 per cent. during the last twenty years.

Social Legislation

The idea of promoting public welfare by legislation on hygiene and sanitation has obtained a firm hold in this country, and the government is bound to follow public opinion. As an outcome an "assistants' bill" and a "working hours" bill have been introduced into parliament, fixing certain hours for work. Thus all juniors, i. e., apprentices and shop assistants under 18 years of age may not be employed for a period exceeding nine hours out of the twenty-four. All shops and factories, except certain establishments where this is impossible, must be closed from 8 p. m. till 5 a. m. at least. In the food industries the time limit is 9 p. m. till 4 a. m., but still no employed person may have less than ten clear hours for sleep and rest during the night. A minimum dinner interval of ninety minutes is required by the bill, besides the ten hours of rest. It is suggested that in summer the shops be closed at 6 or 7, so that the persons employed will find time for walking in fresh air in daylight; it has been stated that the majority of these people spend no more than sixty minutes of the day on the street, walking from and to their homes. Anemia and general debility and a lowered tone of the organs of respiration and circulation have been attributed to these facts, and if the conclusions are correct, a great step forward will be made by the adoption of these bills.

Pharmacology

DIGITALIS AND ITS STANDARDIZATION

The Need of Biologic Methods of Determining the Activity of the Drug

The Hygienic Laboratory of the Public Health and Marine-Hospital Service has recently added another contribution to its already long list of publications. Bulletin No. 48, on "The Physiologic Standardization of Digitalis," is written by Dr. C. W. Edmunds of the University of Michigan at Ann Arbor, who was working on the subject at the Hygienic Laboratory last summer, and by Dr. Worth Hale, assistant pharmacologist in the Hygienic Laboratory. The bulletin deals with a variety of subjects which are intimately connected with digitalis standardization. After a short résumé of the chemistry of the plant, the writers show by references to the papers of Ziegenbein and others that the amount of digitoxin present in several specimens as determined by a chemical examination does not always run parallel with the activity of the specimens as determined by physiologic methods. This fact is of considerable importance, as some manufacturers are putting on the market preparations standardized by the digitoxin method, but as pointed out, even with uniform digitoxin content, there need not be uniform physiologic activity. It is this very fact which renders assay by biologic methods necessary.

That different digitalis preparations of the same name vary greatly in strength is familiar to all physicians who have used the drugs, and by physiologic methods these differences have been shown in both this country and in Europe to be from 100 to 400 per cent.

After discussing the causes of these differences in strength, the authors take up, from the historical standpoint, the subject of the physiologic testing of members of the digitalis series. They give a complete history of the development of this movement from the earliest writings on the subject down to the present time. In 1865 Fagge and Stevenson, in an address before the Royal Society, recommended the frog as a suitable animal on which the various digitalins might be tested in order to determine their relative activity. It is interesting to note that the method they used was essentially the same as is employed to-day by some manufacturers in the assay of their preparations. From the time of the appearance of Fagge and Stevenson's paper in 1866 until the late nineties, a period of thirty years, many papers were published dealing with the question of digitalis variation. A number of different experimental animals were employed, mainly frogs, dogs, and rabbits, and various standards were taken as indicating their relative activity. It seems strange that during this time no practical application was made of the work. It was not until 1898 that Jacquet, who had been examining some of the dialysates of digitalis, suggested that as the leaves show such a marked yearly variation in toxicity, preparations made from them should be tested on frogs, and if they do not show uniform activity, they should be evaporated or concentrated as might be necessary to bring them to the standard strength.

This paper of Jacquet's was, however, preceded by one by Houghton which appeared in America two months earlier. In this paper[1] Houghton recommended that strophanthus preparations should be standardized by determining the minimum fatal dose for frogs.

During the next few years several papers appeared recommending various methods of assay. These papers dealt, in general, with technical difficulties concerned with the methods and the various factors which influence the reaction of animals, and therefore the accuracy of the results. The most notable contributions on the subject which appeared during these years were from the pen of Focke of Düsseldorf. Employing a modification of the frog's heart method, Focke was able to confirm many of the commonly accepted views as to

1. THE JOURNAL A. M. A., Oct. 22, 1908, p. 959.

the causes of digitalis variation. The most important factor he considered to be slow drying of the leaves in which a very considerable amount of moisture is left, sufficient to permit certain enzymes present in the leaves to break up the glucosids to a greater or less extent. To avoid this, Focke recommends that the leaves be dried quickly in an oven so as to get rid of all the moisture.

Several other important papers which appeared during these few years are abstracted in the Bulletin, giving in this way a complete history of the different methods of assay which have been employed up to the present time.

The second part of the bulletin takes up the examination into the accuracy of the various methods which are in vogue to-day for the standardization of members of the series. All of these methods with their different modifications are grouped into three classes. Preparations may be compared (1) by ascertaining the minimum fatal dose on animals; (2) by a comparison of their relative activity on the frog's heart, and (3) by their relative effects on the blood pressure of the higher animals. In all, eight methods of assay were employed illustrating these different groups. The specimens of digitalis, twelve in all, which were assayed by these different methods, were obtained in the open market and were selected as furnishing types of preparations, some of which were made according to the United States Pharmacopeial directions, while others might be classed together as non-pharmacopeial or as proprietary preparations. Before discussing the results of the examination of these specimens, it will be interesting to note the writers' conclusions as to the accuracy of the methods now in vogue.

In the first place, no two methods of assay gave the same results—preparations which by one method might appear to be of the same strength, by a second method were shown to differ 100 per cent. A superficial comparison of all the tables seemed to demonstrate the apparent worthlessness of physiologic assay, but on closer examination the outlook did not appear so hopeless. Two of the preparations, "Digitol" and a "Concentrated" tincture, stood at the head of the list in practically every table. Four U. S. P. fluid extracts were found to be of quite uniform strength by several of the methods, and finally two preparations, Lloyd's "Specific medicine" and "Digitalone" stood at the foot of the list in practically every table, so that there was in general an agreement between the different methods.

It was perhaps surprising that the agreement should be as close as it was. In the first place it would be very surprising if the lethal doses for guinea-pigs and frogs should show exactly the same relation because in the former animals the drug kills by paralyzing the respiration, while in the latter the cause of death is of cardiac origin. One preparation might act strongly on the nervous system and have feeble heart action, while a second might act strongly on the heart, but show little effect on the medulla. For this reason the authors say that the method of standardizing preparations of digitalis by ascertaining their toxicity on the higher animals is incorrect.

Considering the different methods in which the frog's heart is used, the authors recommend that in the choice of a method great care should be taken to allow sufficient time for complete absorption of the drug, because, unless this is done, a weak preparation of easily absorbable constituents would appear stronger than a strong preparation containing constituents that are absorbed with difficulty.

The blood-pressure method in which cats or dogs are used, offers practical difficulties in the way of obtaining these animals at times, and the necessity of using several animals for one preparation on account of marked variations which appear. The writers conclude that of all the methods those in which frogs are used, are probably the best, as these animals can always be easily obtained, and in them the drug exhibits its true cardiac effect. They believe that either the method in which the minimum lethal dose is determined or that in which the heart is brought to systolic standstill in one hour should be chosen. They point out that physiologic standardization is not infallible, but that most of the discrepancies are due to the fact that actions on entirely different physiologic functions have been taken as standards instead of an action on the circulation.

The final section of the bulletin and that part which will perhaps interest the practicing physician most, is concerned with the report on the various preparations of digitalis which were examined. To permit a comparison, these were all figured to uniform tincture or 10 per cent. strength. The simplest way to indicate the relative activity of the different preparations is to reproduce a table from the bulletin. A table was therefore prepared by adding together the rankings of each preparation as determined by each method of assay, and then dividing the sum by the number of assays. The lowest numbers would therefore indicate the highest values.

Preparation	Sum of Rating	Number of Assays	Final Standing
H. K. Mulford & Co., "Digitol."	15	7	2.14
Burroughs, Wellcome & Co., "Concentrated Tincture."	16	7	2.28
Nelson, Baker & Co., "Fluid Extract."	25	7	3.57
Hance Brothers & White, "Fluid Extract."	29	7	4.14
Parke, Davis & Co., "Fluid Extract."	31	7	4.43
Wm. S. Merrell Chem. Co., "Normal Tincture."	40	7	5.71
Sharp & Dohme, "Fluid Extract."	42	7	6.00
Lloyd Brothers, "Specific Medicine."	58	7	8.28
Parke, Davis & Co., "Digitalone" Specimen 3	34	4	8.50
Parke, Davis & Co., "Digitalone" Specimen 1, 2			

This table indicates probably very closely the relative strength of the different preparations examined and only a few of them are discussed individually.

Two preparations of Mulford's "Digitol" were examined, and although it is said to be "assayed, tested physiologically" and standardized to contain 0.025 gm. digitoxin in 100 c.c., the two preparations were not of the same strength as determined by the "one-hour frog" method, one being 30 per cent. weaker than the other.

Merrell's "Normal Tincture" was diluted to the same degree as the fluid extracts, but as normal tinctures are said to be made from fresh leaves, it is perhaps hardly fair to this preparation, but even so it compares with them fairly well. The maximum dose recommended is about the same as for fluid extracts (3 minims).

Lloyd's "Specific Medicine, Digitalis," gave very interesting results, especially when compared with the claims made by this firm. It was assayed by seven methods—in one table it appears at the bottom of the list; in four it stands last but one, and in the other two it is third from the bottom. Its comparative weakness is thus very clearly shown when it is compared with U. S. P. fluid extracts, and yet, according to Lloyd Brothers' advertising literature, "Specific Medicines" have about double the effect on the system that is possessed by ordinary (non-proprietary?) fluid extracts. The dose recommended is from ⅓ to 1 minim every hour, which the writers point out is certainly not less than that of a pharmacopeial fluid extract.

Equally interesting were the results obtained with Parke, Davis & Co.'s "Digitalone," three bottles of which were examined. Two of the specimens were dark brown and contained a heavy precipitate and a somewhat sour odor. The other bottle contained a clear light yellow fluid in which was a flaky precipitate. This latter bottle showed a digitalis action, but this was very feeble as compared with any other digitalis preparation examined excepting Lloyd's preparation discussed above. In fact, it is interesting to note that in six of the seven tables the "Specific Medicine" and one or the other "Digitalone" preparations compete for the last place. It was perfectly evident from the appearance of the specimens of

Digitalone that two of them had deteriorated and by the frog's heart method they were shown to be practically devoid of digitalis action. By some of the lethal dose methods they caused death when given in very large doses, but it was a question whether death resulted from the digitalis itself or from digitalis decomposition products. Specimen No. 2 when injected into the circulation of cats raised the blood pressure in two animals 55 per cent., which result the writers suggest may have been due to decomposition products of digitalis acting on the medulla, since the true cardiac action of the drug had been shown to be absent by tests on frogs. Specimen No. 1 when similarly injected showed an action on the blood pressure comparable to the nitrite series, for instead of raising the pressure it lowered it 23 per cent.

While showing the worthlessness of these preparations, the authors point out that although "Digitalone" is claimed to be an aseptic, non-alcoholic *permanent* solution of digitalis of the same strength as the U. S. P. tincture, it certainly is not permanent under all conditions. One preparation which evidently had not decomposed, at least completely, was about half the strength of a U. S. P. tincture, while the other preparations not only possessed no digitalis action, but were positively harmful.

Correspondence

Necrosis of the Liver After Chloroform Anesthesia

To the Editor:—May I be permitted to comment on the conclusions reached by Drs. John R. Williams and W. D. Becker in their report of a case of "Necrosis of the Liver After Chloroform Anesthesia," THE JOURNAL for May 8, 1909, page 1488? Under title, "Postoperative History," a typical picture of the second stage of acute yellow atrophy of the liver is drawn. These second stage symptoms became rapidly deepened on the third day after operation and chloroform anesthesia, ending in death forty hours after the first indication of any mental disturbance.

The history of the case points very clearly to a severe bacterial infection before the operation. We are shown a patient "subject to attacks of 'indigestion' from childhood." Turbid, dark-brown urine, of acid reaction, and showing albumin blood cells and hyalin casts found postmortem can be assumed to have been present four days before death at the time when the "slight yellow tinge to the sclera" was observed, together with the increasing jaundice "rather noticeable" at the time of death. The acidity of this postmortem urine certainly indicates acid intoxication, and it is a pity that no record of any examination of the urine before the operation appears in the report.

F. W. White designates as one of the special poisonous substances, damaging the function of the liver and thereby producing acute yellow atrophy, "certain products of decomposition in the bowel." Such products of decomposition are very likely to have been present in the case reported even before the attack on April 16 of vomiting and diarrhea, pain, tenderness and no elevation of temperature. Adding to this an expectant treatment of four days, evidences in the urine of acid intoxication and destructive protein metabolism not excluded; at the time of the operation the presence of a slight yellow tinge to the sclera; the finding of an abscess thoroughly walled off containing about eight ounces of foul-smelling pus, up to which event the formation of gastrointestinal toxins could go on undisturbed; the temporary general improvement following evacuation and drainage of the abscess, but the steady increase of jaundice; add finally the third stage symptoms of forty hours' duration, death and the postmortem findings, and we do not have to adduce the toxic action of chloroform used as an anesthetic "in the absence of other explanation" to account for the acute yellow atrophy and its typical pathology.

At the time of the operation there was a slight yellow tinge to the sclera, the patient died in less than four days from yellow atrophy of the liver. In a majority of cases death ensues before the fourteenth day. Almost one-half of the cases terminate fatally in from the fifth to the tenth day, says A. O. J. Kelly in "Modern Medicine," vol. v. Did or did not chloroform used as an anesthetic cause the death of the patient in question? I think it did not.

I am not as yet prepared to advocate chloroform as a safe anesthetic in cases in which gastrointestinal decomposition products are to be suspected and where functional disorders of the liver is evidenced by even slight jaundice in the absence of gross gall duct obstruction.

In order to prove that chloroform in measured doses given to physiologic effect produces acute yellow atrophy of the liver it will be necessary to collect cases in which the dosage has been accurate and the exclusion of pre-existing atrophy has been positive. Postulates such as those of Drs. Williams and Becker from premises so contradictory are not satisfactory evidence of the danger of chloroform as an anesthetic and should be promptly denied.

CARL R. KRONE, M.D., Oakland, Calif.

Dr. Krone's letter was submitted to Drs. Williams and Becker for comment, and they replied as follows:

To the Editor:—Dr. Krone's criticism of our report is of interest because it suggests the widely different conclusions which careful students may arrive at from a given set of data. He states:

> In order to prove that chloroform in measured doses given to physiologic effect produces acute yellow atrophy of the liver, it will be necessary to collect cases in which the dosage has been accurate and the exclusion of pre-existing atrophy has been positive.

It may be inferred from this that Dr. Krone believes it is not proven that chloroform has ever produced liver necrosis, but it seems to us that it has been too generally conceded and too well established to make this a point in a controversy. Moreover, the amount of chloroform administered apparently has little to do with the necrosis which may follow, for a study of the many cases reported in the literature supports this view. In this case, the chloroform was accurately measured, and as was indicated in the report, approximately 4 drams were used. Dr. Krone believes that the liver condition was due to a pre-existing bacterial intestinal intoxication rather than to the toxic effects of the chloroform, and supports his contention mainly on the rather slender evidence presented in the urine examination.

A summary of the facts is as follows: The patient had an old inflammatory condition of the appendix, evidenced both by the history and the anatomic findings. During the attack for which he was operated on he suffered from pain in the abdomen, vomiting and diarrhea. A very slight jaundice was present. The postoperative history was uneventful until the third day, when the patient became irrational and later maniacal. Then followed convulsions, coma, and death.

The history of this case until the third day after operation is clearly one of appendiceal disorder. There was absolutely nothing about it up to this time to suggest either liver disease or intestinal intoxication. The urine examinations made at the time of operation and immediately following it were practically normal. The urine examination referred to by Dr. Krone was made by Dr. Williams from the excretion taken from the bladder at the postmortem. It was entirely different from those previously made, indicating the development of another pathologic state. It is invading the realm of the speculative to conclude from this single examination that the patient was suffering from bacterial poisoning and it is not in accord either with the history of the case or with the material evidence of the postmortem. Histologic examination of the liver sections also pointed strongly toward chloroform necrosis rather than "idiopathic" acute yellow atrophy. It must be conceded that cases of this sort are not capable of demonstration as is a mathematical proposition, neverthless, we believe the history and findings warrant the conclusion as to cause of death. Intestinal toxemia does not adequately explain it. Furthermore, we are persuaded that chloroform as an anesthetic is more dangerous than is generally appreciated, for since the study of this case two others of similar type and followed by death, have come to our notice in this community.

JOHN R. WILLIAMS.
Rochester, N. Y. W. D. BECKER.

Book Notices

TEXT-BOOK OF OPERATIVE SURGERY. By Warren Stone Bickham, M.D., Phar. M., Junior Surgeon, Touro Hospital, New Orleans. Cloth. Pp. 1206, with illustrations. Third edition. Price, $6.50. Philadelphia: W. B. Saunders Co., 1908.

The text of this edition of Bickham's book has been enlarged by nearly a third, and the illustrations by over half. We are glad to note that some of the omissions and mistakes indicated in the previous review have been corrected.

Bickham still speaks of the advisability of flooding the field of operation to prevent air embolism after injury of the large veins at the base of the neck. He neglects to mention provisional ligation, a plan followed by Fenger with such success. Temporary ligation—merely closing the vein—would prevent the possibility. Flooding the field of operation in such cases is more theoretical than practical. The excision of a synovial sheath of an extensor tendon is still illustrated at a point in the hand where no sheath exists.

The most striking thing in the book is the detail with which the surgical anatomy and the steps of the different operations are given. There is considerable doubt as to the necessity of such detail. It is the application of didactic work to surgical procedures. Naturally, the outlines given can be followed but rarely.

The technic is well described, but the statement made in regard to the second edition that no rules are given to aid an inexperienced operator to make a selection of the procedure to be used holds true for the present edition.

The enormous task of collating and arranging the steps of the different procedures has been well and conscientiously done, and the book will be exceedingly useful for reference.

A TEXT-BOOK OF GENERAL PATHOLOGY. By J. Martin Beattie, M.A. (N. Z.), M.D. (Edin.), Professor of Pathology and Bacteriology, University of Sheffield, and W. E. Carnegie Dickson, M.D., B.Sc., F.R.C.P., Lecturer on Pathological Bacteriology, and Senior Assistant to the Professor of Pathology in the University of Edinburgh. Cloth. Pp. 475, with illustrations. Price, $5. Philadelphia: P. Blakiston's Son & Co., 1908.

The pathologist will examine this book with particular interest because of the opening statement of the preface that "the present volume is based on the teaching of the Edinburgh school." Knowing the great influence that has been exercised by this school in British medical thought and practice, he will be interested in learning what it now represents in its teaching and ideals in so fundamental a branch as pathology, and what it may have to offer that is in advance of the ordinary standards. The Edinburgh standards, if the book at hand represents them fairly, call for clear presentation, in a concise way of the most essential facts, without any strong attempt to encourage and to lead students into extensive and independent reading or investigation. Accuracy, care, clearness and honesty of method and purpose are all marked characteristics of this book, but there is no intention of exhaustiveness exhibited, and one gets the impression that the writers have in mind a body of students who have no very strong preparation in the fundamental branches, and who are not to be expected to do anything more than to prepare themselves for the clinical courses. The Edinburgh teaching, therefore, would seem to fall short of the ideals of the very best of the American schools, while probably doing better than is the practice in many of them.

This volume is devoted to the subject of general pathology, a subsequent volume on special pathology being promised. It is reliable, in some places original, as in the discussions of infarct formation and the tissue changes of inflammation, and a good and useful small text-book of general pathology.

It falls short, however, of being an ideal book, according to the highest standards of medical education. The subjects are far too superficially treated to satisfy a thorough, interested student. There is too often the air of one who should say: "These are the main facts, and all you will need to know to pass your examinations; there are many fundamental principles and unsettled theories that you need not bother your head about." Also many subjects are treated in a very incomplete manner. For example, in discussing air embolism, no attempt is made to explain the conditions necessary in order that air may enter the vessels; the mechanism of the effects produced by the intravascular air is not considered; and no mention is made of the possibility of air embolism from obstetric manipulations or from attempted intravenous injection of saline solutions—surely serious omissions in the education of the future practitioner. Similar omissions, not warranted on the ground of economy of space, are by no means infrequent; to mention only one, in the chapter of immunity, the highly important subject of anaphylaxis is not even spoken of.

We criticize this book to this extent because it is worth it. There are many commendable features, and any medical student will find help and profit in its pages—it comes so near being an excellent text that the shortcomings are all the more to be regretted.

One of the best features is the illustrating, which is splendid. There is perhaps no other English text with equally good illustrations from the standpoint of clearness, accuracy, and helpfulness for the student. For reproduction of photographs they are unusually good, being in the main as clear as diagrammatic drawings, with the added virtue of being true reproductions of actual conditions. In order to make these numerous reproductions the publishers have printed the entire book on highly glazed paper, which is exceedingly trying to the eyes and very easily torn. It is also to be presumed that the illustrations account for the price, being rather high for a book of this size.

Miscellany

The Diagnostic Value of the Porges Reaction in Paresis.—C. Tommasi (*Riv. di patol. nerv.*, February, 1909, xiv, No. 2) has tested the Porges glycocholate of soda reaction in 10 paretics, 1 case of suspected syphilis, 1 epileptic, 1 idiot and 6 senile dements, and tabulates and discusses the results. Two series of tests were made with an interval of from a week to a month between them in various cases. In the first series he obtained 3 positive and 7 negative reactions in the paretics and 3 positive and 6 negative in the others. In the second series there were only 10 paretics, 1 having died in the interval; the others gave 3 positive and 6 negative reactions. Of the 9 non-paretics there were also 3 giving positive reactions, but only 1 of these was positive in the first series (in the case of suspected syphilis), a dubious reaction appearing only after fifty hours. One paretic who showed a negative reaction in the first series was one of those who gave a positive reaction in the second series. From these findings, Tommasi concludes as follows: 1. The reaction of Porges with soda glycocholate is not constant in paresis. 2. A positive reaction may occur in individuals free from paresis or syphilitic taint in a proportion of cases nearly or quite equal to that in which it occurs in paretics. 3. The reaction is not always a constant result, either positive or negative in the same individual, paretic or non-paretic.

Medical Genealogy.—The Germans have inaugurated an effort to collect the medical histories of families and preserve them for purposes of research on heredity and similar questions. The *Centralstelle für deutsche Personen- und Familienforschung*, which has its headquarters at Leipsic, Neumarkt 29, has founded a department for collection of biologic and medical data bearing on the medical genealogy of different families. The necessity for such research and collections was emphasized anew by Professor Sommers in his postgraduate course at Giessen last August on "Families and Heredity," especially the necessity for study of the connection between the inherited *Anlage* and the fate of the family, and between the *Anlage* and the environment, as the most effectual means of throwing light on the evolution of the human race. It is the only means to determine the laws regulating the inheritance of chromosomes and the prominence or latency of various properties in the offspring. In an article in the *St. Petersburg. med. Wochenschrift*, May 15, Eichfuss urges systematic research in this line, especially in regard to hemophilia, tabes, tuberculosis, scrofula, carcinoma, syphilis and mental and nervous affections. He says that the field has been

worked a little by the psychiatrists and criminologists, but it will yield a most interesting and instructive harvest in all lines.

To Open the Thorax for Autopsy.—In the *Semana Medica*, April 15, 1909, D. Del Valle gives an illustration to show the advantages of obtaining access to the thorax, after the usual median incision from chin to symphysis, by cutting out the sternum and adjoining costal cartilages, down to and including the fifth. The inner end of the clavicle is first disarticulated. The flap of bone and cartilage thus outlined is separated from the parts beneath and removed, leaving a broad and long opening into the chest, wider below than at the top, while the retention of the sternum and cartilages below the fifth leaves the diaphragm in place intact. This prevents the escape of fluids, while allowing much more instructive oversight of conditions.

Treatment of Neurasthenia.—The Germans have a word, *Ausspannung*, which means to take off the harness and step out of the shafts for a brief interval. In a communication to the *Zeitschrift für Balneologie*, ii, No. 1, Boas advises such periods of relaxation—*Ausspannungen*—as a systematic therapeutic. he sends the patients away from home for five or ten days at intervals of six or eight weeks, and has been amazed at the resulting benefit in many instances. The neurasthenic conditions resulting from excessive mental work or emotional strain are the ones that benefit by these brief relaxation trips. It is not necessary to go to a health resort; a trip to some other city will answer the purpose in winter where there is opportunity for attending theaters, concerts, museums, etc. The main point is to have these little *Ausspannungen* repeated systematically every six or eight weeks.

The Public Service

Army Changes

Memorandum of changes of stations and duties of medical officers, U. S. Army, for the week ended June 5, 1909:

Coffin, J. M., capt., granted an extension of 18 days to his leave of absence.

Palmer, F. W., capt., relieved from duty at Fort Benjamin Harrison, Ind.; will proceed at the expiration of his present leave of absence to Fort William H. Seward, Alaska, for duty.

Hutton, P. C., capt., when relieved at Fort William H. Seward, Alaska, will proceed to Fort Snelling, Minn., for duty.

Murray, A., capt., relieved from duty at Fort DuPont, Del.; will proceed to Fort Egbert, Alaska, for duty.

Grissinger, J. W., capt., when relieved from duty at Fort Egbert, Alaska, will proceed to Fort Gibbon, Alaska, for duty.

Hall, J. F., capt., when relieved at Fort Gibbon, Alaska, will proceed to Fort Brady, Mich., for duty.

Whaley, A. M., capt., relieved from duty at Fort Sam Houston, Texas, and ordered to Fort St. Michael, Alaska, for duty.

Sweazey, V. E., capt., when relieved from duty at Fort St. Michael, Alaska, will proceed to Plattsburg Barracks, N. Y., for duty.

Miller, E. W., capt., granted an extension of one month to his leave of absence.

Truby, W. F., major, granted an extension of 15 days to his leave of absence.

George, W. R. S., O'Day, S. F., Philips, H. F., Kearney, R. A., Miner, Donald, 1st lieutenants, M. R. C., ordered to proceed home from their present station.

Tenney, E. S., 1st lieut., M. R. C., granted leave of absence for 1 month, 20 days, about June 7.

Porter, E. H., 1st lieut., M. R. C., ordered from Fort Worden, Wash., to Fort Casey, Wash., for temporary duty.

Magee, J. C., 1st lieut., M. R. C., granted leave of absence for 5 days.

Doerr, C. E., 1st lieut., M. R. C., granted leave of absence for 10 days.

Harmon, D. W., 1st lieut., M. R. C., granted leave of absence for 20 days.

Dear, W. R., 1st lieut., M. R. C., granted leave of absence for 10 days.

Doerr, C. E., Bayly, R. C., Leary, T. J., 1st lieutenants, M. R. C., ordered to Fort D. A. Russell, Wyo., for duty with Company A, H. C.

Shields, W. S., Card, D. P., Kerr, R. W., 1st lieutenants, M. R. C., ordered to San Francisco, Cal., for duty with Company B, H. C.

Parce, A. D., Wilson, J. A., Goldthwaite, R. H., 1st lieutenants, M. R. C., ordered to Fort Niagara, N. Y., for duty with Company C, H. C.

Burket, J. A., 1st lieut., M. R. C., relieved from duty at Fort Snelling, Minn., and ordered to Fort Riley, Kans., for duty.

King, C. T., 1st lieut., M. R. C., relieved from duty at the Presidio of Monterey, Cal., and ordered to Fort Williams, Me., for duty.

McCornack, C. C., 1st lieut., M. R. C., relieved from duty at Vancouver Barracks, Wash., and ordered to Plattsburg Barracks, N. Y., for duty.

Fisk, O. C., 1st lieut., M. R. C., relieved from duty at Fort Leavenworth, Kans., and ordered to Fort Terry, N. Y., for duty.

Fox, J. S., 1st lieut., M. R. C., relieved from duty at Fort Sam Houston, Texas, and ordered to Fort McKinley, Me., for duty.

Kennedy, J. S., 1st lieut., M. R. C., relieved from duty at Fort Sam Houston, Texas, and ordered to Fort Bliss, Texas, for duty.

Demmer, C. C., 1st lieut., M. R. C., relieved from duty at Fort Ontario, N. Y.; will proceed to Fort Rodman, Mass., for duty.

Chase, C. L., 1st lieut., M. R. C., when relieved from duty at Fort Rodman, Mass., will proceed to Fort Gibbon, Alaska, for duty.

Harmon, D. W., 1st lieut., M. R. C., will proceed to Fort Davis, Alaska, for duty.

Trotter-Tyler, G., 1st lieut., M. R. C., ordered from Fort Adams, R. I., to Fort Strong, Mass., for temporary duty.

Mueller, A., 1st lieut., M. R. C., Magee, J. C., 1st lieut., M. R. C., Heath, G. D., Jr., 1st lieut., M. R. C., ordered to San Francisco, Cal., for duty at the Army General Hospital.

Coburn, H. C., 1st lieut., M. R. C., ordered to Fort Slocum, N. Y., for duty.

Tuttle, A. D., 1st lieut., M. R. C., ordered to San Francisco, Cal., to sail July 5 for the Philippine service.

Wright, F. S., 1st lieut., M. R. C., ordered to New York City on business of the Medical Department, and thence to the Presidio of Monterey, Cal., for duty.

Garcia, L. C., 1st lieut., M. R. C., ordered to Fort McDowell, Cal., for duty.

Snow, C. G., 1st lieut., M. R. C., ordered to Fort Leavenworth, Kans., for duty.

Dear, W. R., 1st lieut., M. R. C., ordered to Fort Sheridan, Ill., for duty.

Fronk, C. E., 1st lieut., M. R. C., ordered to Fort Sam Houston, Texas, for duty.

McDiarmid, N. L., 1st lieut., M. R. C., ordered to Fort Sam Houston, Texas, for duty.

Smith, W. H., 1st lieut., M. R. C., ordered to Vancouver Barracks, Wash., for duty.

Stayer, M. C., 1st lieut., M. R. C., ordered to Fort McDowell, Cal., for duty.

Treuholtz, C. A., 1st lieut., M. R. C., ordered to Fort Baker, Cal., for duty.

Waring, J. B. H., 1st lieut., M. R. C., ordered to Fort Lawton, Wash., for duty.

Davis, A. D., 1st lieut., M. R. C., ordered to Fort Lawton, Wash., for duty.

McLellan, George H., 1st lieut., M. R. C., ordered to Fort Crook, Nebr., for duty.

Dunbar, L. R., 1st lieut., M. R. C., ordered to Fort Casey, Wash., for duty.

Trotter-Tyler, G., 1st lieut., M. R. C., relieved from duty at Fort Adams, R. I., will proceed to Vancouver Barracks, Wash., for duty.

Lowe, Thomas S., 1st lieut., M. R. C., relieved from further duty at Fort Walla Walla, Wash., and from temporary duty at Vancouver Barracks, Wash.; will proceed to Fort Lawton, Wash., and report for duty in the Army Transport Service.

George, W. R. S., 1st lieut., M. R. C., honorably discharged from the service of the United States, his services being no longer required.

Navy Changes

Changes in the Medical Corps, U. S. Navy, for the week ended June 5, 1909:

Guest, M. S., surgeon, detached from the *Tennessee* and ordered to the Naval Academy, Annapolis, Md.

Bogert, E. S., Jr., surgeon, detached from the Naval Academy and ordered to the Navy Yard, New York, for temporary duty.

Hoen, W. S., P. A. surgeon, detached from duty at the Naval Hospital, Las Animas, Colo., and ordered to the *Philadelphia*.

Angwin, W. A., P. A. surgeon, detached from the *Philadelphia* and ordered to the *Tennessee*.

Ziegler, J. G., Kerr, W. M., Clark, G. F., Harlan, T., Riker, G. A., asst.-surgeons, commissioned asst.-surgeons, with rank of lieutenants (junior grade), from April 14, 1909.

Jenkins, H. E., Riddick, W. J., acting asst.-surgeons, commissioned acting asst.-surgeons, with rank of lieutenant (junior grade), from May 26, 1909.

Hart, S. D., acting asst.-surgeon, ordered to duty at the Naval Hospital, Navy Yard, New York.

Public Health and Marine-Hospital Service

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended June 2, 1909:

Cofer, L. E., asst. surgeon general, directed to proceed to Fortress Monroe and Fisherman's Island, Va., on special temporary duty.

Young, G. B., surgeon, detailed to represent the service at the meeting of the American Medical Association, to be held in Atlantic City, N. J., June 7-11, 1909.

Grubbs, S. B., P. A. surgeon, directed to proceed to La Guaira, Venezuela, on special temporary duty.

Goldberger, Joseph, P. A. surgeon, directed to proceed to Woods Hole, Mass., on or about June 25, 1909, on special temporary duty.

Wilson, R. L., P. A. surgeon, granted 15 days' leave of absence from June 2, 1909.

Stiles, Charles W., chief, division of zoology, Hygienic Laboratory, detailed to attend the fifty-sixth annual meeting of the Medical Society of North Carolina in Asheville, N. C., June 15, 1909.

Adams, F. B., acting asst.-surgeon, granted 21 days' leave of absence from June 1, 1909.

MacCaffry, W. B., acting asst.-surgeon, granted 4 days' leave of absence in May, 1909, under paragraph 210, Service Regulations.

Stuart, A. P., acting asst.-surgeon, granted 30 days' leave of absence from June 30, 1909.

Wright, F. T., acting asst.-surgeon, granted 30 days' leave of absence, without pay, from May 23, 1909.

Hunt, Reid, chief, division of pharmacology, Hygienic Laboratory, detailed to attend the annual session of the American Medical Association (Section on Pharmacology and Therapeutics) to be held in Atlantic City, N. J., June 8-11, 1909.

BOARD CONVENED

Board of medical officers convened to meet at the Marine Hospital office, Seattle, Wash., May 29, 1909, for the purpose of examining alien Yutaka. Detail for the board: P. A. Surgeon M. W. Glover, chairman; Asst.-Surgeon C. W. Chapin, recorder.

Health Reports

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended June 4, 1909:

SMALLPOX—UNITED STATES

Arizona: Winslow, April 24-May 1, 1 case, 1 death.
California: Los Angeles, May 8-15, 3 cases; San Francisco, 1 case.
District of Columbia: Washington, May 15-22, 1 case.
Georgia: Atlanta, Jan. 15-May 21, 62 cases; Macon, May 2-9, 3 cases.
Illinois: Danville, May 16-23, 2 cases; Springfield, May 14-21, 1 case.
Kentucky: Covington, May 15-22, 3 cases; Newport, 1 case.
Massachusetts: Somerville, May 15-22, 1 case.
Minnesota: Duluth, May 13-20, 2 cases.
Missouri: Kansas City, May 15-22, 2 cases.
Montana: Butte, May 6-20, 11 cases.
New Jersey: New Brunswick, May 1-22, 5 cases.
North Carolina: State of, April 1-30, 127 cases.
Ohio: Columbus, May 15-22, 1 case; Sandusky, May 8-15, 1 case.
Pennsylvania: Philadelphia, May 14-21, 1 case; Pittsburg, May 15-22, 1 case.
Utah: State of, April 1-30, 37 cases.
Virginia: Portsmouth, May 18-25, 2 cases, 2 deaths.
Washington: Spokane, May 1-8, 5 cases.
Wisconsin: Milwaukee, May 15-22, 2 cases.

SMALLPOX—INSULAR

Philippine Islands: Manila, April 10-17, 9 cases, 2 deaths.

SMALLPOX—FOREIGN

Africa: East London, April 10-17, 1 case, 1 death.
Algeria: Algiers, April 1-30, 18 cases, imported.
Brazil: Rio de Janeiro, March 29-April 25, 44 cases, 26 deaths; Sao Paulo, April 5-11, 1 death.
Canada: Halifax, May 8-15, 2 cases; Toronto, April 24-May 15, 5 cases; Yarmouth, May 22-29, 2 cases.
Ceylon: Colombo, March 27-April 17, 5 cases, 4 deaths.
China: Amoy, April 20, present.
Egypt: Cairo, April 8-29, 22 cases, 19 deaths.
India: Bombay, April 20-27, 20 deaths; Calcutta, April 10-17, 171 deaths; Madras, April 17-23, 2 deaths; Rangoon, April 10-17, 9 deaths.
Indo-China: Saigon, April 3-10, 2 cases, 2 deaths.
Italy: Catania, May 1-8, 1 case; Naples, May 2-16, 17 cases, 7 deaths.
Java: Batavia, April 10-17, 3 cases.
Mexico: Matamoras, May 8-15, 1 case; Monterey, May 9-16, 10 deaths; Veracruz, 1 case.
Portugal: Lisbon, May 8-15, 4 cases.
Russia: Odessa, April 24-May 1, 1 case, 1 death; St. Petersburg, April 10-17, 13 cases, 5 deaths; Warsaw, March 6-20, 6 deaths.
Servia: Belgrade, May 1-8, 10 cases, 2 deaths.
Spain: Barcelona, May 3-10, 5 cases; Madrid, April 1-30, 30 deaths; Vigo, May 1-8, 1 death.

YELLOW FEVER

Barbados: May 8-15, 1 case.
Brazil: Para, May 1-8, 4 cases, 2 deaths.
Mexico: Merida, May 14, 1 case, imported from Tekax.

CHOLERA—INSULAR

Philippine Islands: Provinces, April 10-17, 133 cases, 90 deaths.

CHOLERA

India: Bombay, April 20-27, 25 deaths; Calcutta, April 10-17, 108 cases; Rangoon, 5 deaths.
Russia: St. Petersburg, May 7-14, 15 cases, 7 deaths.

PLAGUE

Brazil: Rio de Janeiro, March 27-April 25, 3 cases.
Chile: Antofagasta, April 17, 9 cases; Iquique, April 18, 22 cases.
Egypt: General, April 16, 29 cases, 19 deaths.
German East Africa: Muanza, April 14, 60 deaths.
India: General, April 10-17, 5,309 cases, 4,594 deaths; Bombay, April 20-27, 508 deaths; Calcutta, April 10-17, 90 deaths; Rangoon, 30 deaths.
Indo-China: Saigon, April 3-10, 5 cases, 5 deaths.
Japan: Himeji, April 30, 1 case, 1 death; Kobe, April 17-24, 2 cases, 2 deaths; Yokohama, April 24-May 1, 1 case.
Peru: Lima, April 24-May 1, 10 cases, 6 deaths.
Straits Settlements: Singapore, April 3-10, 2 deaths.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

LENHARTZ DIET

To the Editor:—Will you kindly state what constitutes the so-called Lenhartz diet, which is used in ulcer of the stomach?

G. N. P., Yonkers, N. Y.

ANSWER.—The Lenhartz diet was described in THE JOURNAL, Jan. 26, 1907, and again May 30, 1908, p. 1813. It consists of a somewhat abundant diet, chiefly of proteids, given on the principle that the excess of acid is thereby neutralized and the healing of the ulcer facilitated. The patient is put to bed and absolute rest enjoined, so that the first two weeks following hematemesis the feces and urine are passed in a bedpan. Mental quietude is also enjoined, especially freedom from any form of excitement. Confinement to bed is continued for at least four weeks. An ice-bag is laid over the region of the stomach to promote the contraction of that organ, lessen the exposed surface of the ulcer and relieve pain. On the first day, even after hematemesis, the patient receives in teaspoonful doses about a pint of iced milk and one, two or three fresh beaten eggs during the first twenty-four hours. The eggs are beaten up entire with a little sugar and the cup containing them placed in a dish filled with ice, so that they remain cold. In addition two or three times a day or oftener, bismuth subnitrate in, at most, 30-grain doses, is given, suspended in water, and these doses are repeated, as needed for the first ten days, two or three times a day. The amount of milk is increased daily by about 100 c.c. (3½ oz.) and daily one egg is added until at the end of the first week about 800 c.c. (26 oz.) of milk and from six to eight eggs are taken daily. After six days scraped beef can be given in quantities increased from the beginning dose of 31 gm. (1 oz.) to 70 gm. (2⅓ oz.) the second day, and so on, the beef being stirred into the egg. Gruel, softened zwieback, etc., may be added to the diet after two weeks, and at the end of four weeks an abundant mixed diet, avoiding coarse vegetables and other irritating substances, can be given. The bowels are kept open by enemata.

The method is described by M. Wagner (*Mucnch. med. Wchnschr.*, Jan. 5, 1904) and also by J. V. Haberman (*Medical Record*, June 16, 1906). This method was tested by E. Wirsing (*Archiv. f. Verdauungskrankheiten*, xi, 3), in comparison with the method of Leube, and he reaches the conclusion that it is better than the older method for patients who have had recent hemorrhages or who are much debilitated, but that the method of Leube should be given the preference in ordinary cases. Wirsing's article was reviewed in THE JOURNAL, Oct. 7, 1905, page 1122.

This form of treatment has been tested by Lambert in eight cases of a severe type (*Amer. Jour. Med. Sci.*, January, 1908, abstracted in THE JOURNAL, Feb. 8, 1908, p. 480), and he comes to the conclusion that the claims of Lenhartz are correct; that the cure is equally efficient with the older method, is more rapid and more certain, vomiting stopping more quickly and relapse occurring less frequently than in the Leube method; that pain ceases more promptly, a sufficient food supply is afforded, anemia can be treated earlier, and a return to full diet allowed sooner than in the older method.

Lambert's modifications are more fully described in THE JOURNAL, Aug. 8, 1908, p. 497. If the patient prefers he allows a mixing of the eggs and milk and feeding the mixture, instead of the usual alternation as advised by Lenhartz. He also substitutes chopped chicken for the raw ham in the treatment of Lenhartz. After the tenth day Lambert allows a broiled chop, beefsteak or chicken as a substitute for the raw beef. Later ice cream is added and zwieback is changed to toasted bread, and other cereals take the place of rice.

ETIOLOGY OF SCARLET FEVER

To the Editor:—Please give me references to the latest findings or research in regard to the etiology of scarlet fever.

E. B. FUNKHOUSER, M.D., Trenton, N. J.

ANSWER.—Among the more important recent articles embodying the results of investigations into the etiology of scarlet fever may be mentioned especially the following:

Hektoen, L.: Bacteriologic Examination of the Blood During Life in Scarlet Fever with Special Reference to Streptococci, THE JOURNAL A. M. A., 1903, xl, 685.

Weaver, George H.: Bacteriologic Studies of the Skin and Throat in Cases of Scarlatina, Tr. Chicago Path. Soc., 1903, v, 222; Agglutination of Streptococci, Especially those cultivated from Cases of Scarlatina by Human Sera, *Jour. Infect. Dis.*, 1904, i, 91; The Vitality of Bacteria from the Throats of Scarlet Fever Patients, with special reference to Streptococci, *Jour. Med. Research*, 1903, ix, 246.

Mallory, F. B.: Scarlet Fever: Protozoon-like Bodies Found in Four Cases, *Jour. Med. Research*, 1904, x, 483.

Jochmann, G.: Die Bakterienbefunde bei Scharlach und ihre Bedeutung fur den Krankheiteprocess, *Ztschr. f. klin. Med.*, 1905, lvi, 316.

Duval: Die Protozoen des Scharlachfiebers, *Virchow's Arch. f. path. Anat.*, 1905, clxxiv, 485.

Field, C. W.: The Presence of Certain Bodies in the Skin and Blister Fluid from Scarlet Fever and Measles, *Jour. Exper. Med.*, 1905, vii, 343.

Ruediger, G. F.: The Streptococci from Scarlatina and Normal Throats, *Jour. Infect. Dis.*, 1906, iii, 755.

Gabritschewsky: Ueber Streptokokenvaccine und desen Verwendung bei der Druse der Pferde und dem Scharlach des Menschen, *Centralbl. f. Bakteriol.*, part 1, Orig., 1906, xli, 719, 844.

Tunnicliff, R. M.: The Streptococco-opsonic Index in Scarlet Fever, *Jour. Infect. Dis.*, 1907, iv, 304.

Hektoen, L.: Is Scarlet Fever a Streptococcus Disease? THE JOURNAL A. M. A., 1907, xlviii, 1158.

Gabritschewsky: Ueber Streptokokkenervtheme und ihre Beziehungen zum Scharlach, *Berl. klin. Wchnschr.*, 1907, xliv, 556.

Gamaleia, N. T.: Scharlacherreger. *Berl. klin. Wchnschr.*, 1908, xlv, 1595.

Williams, A. W.: Recent Studies on Scarlet Fever, *Am. Jour. Obst.*, 1908, lviii, 152.

Schleissner, F.: Bakteriologische und serologische Untersuchungen bei Scharlach, *Wien. klin. Wchnschr.*, 1909, xxii, 553.

HAIR-PIN IN THE FEMALE BLADDER

To the Editor: The report of T. L. Hazard in THE JOURNAL, May 29, page 1759, on the case of a "Hat-Pin in the Male Urethra," prompts me to forward the following: The patient, who was referred to me by Dr. Shaw, of Junction City, Ohio, was a young, robust girl; she stated that while dressing, a hair-pin fell from her hair striking a nearby sofa, from which it rebounded into her bladder (unique explanation!). The hair-pin could be seen through the cystoscope, the loop of the pin pointing toward left wall of bladder. The accident (?) having occurred so recently, there was no incrustation and the pin was easily removed by hooking it out of the bladder with the little finger of my left hand, introduced after full dilatation of the urethra under general anesthesia.

STARLING S. WILCOX, M.D., Columbus, Ohio.

BILLROTH'S ANESTHESIA SOLUTION

To the Editor:—Your explanation of the A. C. E. mixture in THE JOURNAL, May 29, page 1775, was incorrect. The mixture was also called the 1, 2, 3 mixture:—1 part alcohol, 2 parts chloroform, 3 parts ether.

W. E. SHAW, Cincinnati.

ANSWER: The ordinary A. C. E. mixture, so called because it is a mixture of alcohol, chloroform and ether, contains 1 part of alcohol, 2 parts of chloroform, and 3 parts of ether, as our correspondent states. The query which was answered in THE JOURNAL, May 29, referred to Billroth's anesthetic mixture, which is also an A. C. E. mixture, composed of 1 part of alcohol, 3 parts of chloroform and 1 part of ether.

MARTIN STAIN FOR TUBERCLE BACILLI

To the Editor:—Please publish in detail mode of making stains for use in the Martin-Herman Mons method of staining tubercle bacilli.

A. R. SMITH, Los Angeles.

ANSWER: The Martin stain consists of two liquids: 1, A mordant solution consisting of a 1 per cent. solution of ammonium carbonate; 2, a stain made by dissolving 3 per cent. of crystal violet (methyl violet, 6 B.) in 95 per cent. ethyl alcohol. These solutions should be kept separately and mixed when wanted for use in the proportion of 3 parts of the mordant to one of the stain. After staining, the specimen is decolorized with 10 per cent. nitric acid in 5 per cent ethyl alcohol. Crystal violet can be obtained by dealers in bacteriologic supplies.

DELAYED HEALING OF WOUNDS

To the Editor:—What is the reason that in some persons the healing process in cuts, abrasions, etc., is so slow? Take, for instance, the case of a man of 35, in apparent good health, who knocked off a piece of skin from the hand, one-quarter of an inch square. There was at first profuse bleeding and then an oozing of serum for from twenty-four to thirty-six hours. A crust then formed, but on motion the parts cracked, showing a seropurulent fluid beneath. After a week healing commenced and continued. The final stage was a hard corn-like scab which had to be cut like a corn and worn thin, having a smooth scar for a long time. The total time from inception to scar in the individual is from three to four weeks for even the smallest injury. Would vaccine therapy offer any hope of cure and what would be likely to help?

E. W. BURT, Westport, Mass.

ANSWER.—The explanation lies without doubt in two factors: a lack of resisting power on the part of the general system and some local condition in the skin unfavorable to healing. The latter condition may arise from a constitutional peculiarity of the individual's skin or from irritation in consequence of poisons circulating in the blood or, lastly, from repeated local infection. Theoretically, vaccine therapy ought to re-enforce the deficient immunizing action of the blood and favor healing. The vaccine would most appropriately be made from the secretions of the unhealed wound.

Association News

NEW MEMBERS

List of new members of the American Medical Association for the month of May, 1909:

ALABAMA

Downing, J. H., Bessemer.
Smith, J. G., Bankston.
Spotswood, D. J., Mobile.
Wilkinson, H. B., Montgomery.

ARKANSAS

Elton, A. M., Bruno.
McVay, L. C., Marion.
Owens, W. R., Paragould.
Scott, E. E., Magazine.

CALIFORNIA

Bryson, C. W., Los Angeles.
Canney, F. G., San Francisco.
Cross, Hugh, Dunsmuir.
Dameron, J. D., Stockton.
Doig, R. L., San Diego.
Foster, R. L., San Diego.
Pascoe, E. R., Los Angeles.
Ross, R. O., Fresno.
Steade, J. M., San Diego.
Sylvester, Florence M., Oakland.
Tower, A. M., Lodi.

COLORADO

Fantz, Theresa S., Denver.

CONNECTICUT

Barrett, W. J., New Haven.
Bohannan, C. G., South Norwalk.
Hawkes, W. W., New Haven.
O'Flaherty, E. P., Hartford.
Variell, A. D., Waterbury.

DISTRICT OF COLUMBIA

Carr, W. B., Washington.
Ruble, W. A., Washington.
Sowers, W. F. M., Washington.
Stewart, J. W., Washington.

GEORGIA

Bridges, D. R., Dawson.
Carter, W. N., Columbus.
Hall, T. H., Macon.
Kinard, J. O., Atlanta.
Wiggins, Lee W., Dexter.

IDAHO

Blitz, Adolph, Boise.
Soderquist, A. R., Idaho Falls.

ILLINOIS

Abelmann, H. W., Chicago.
Beesor, B. B., Chicago.
Berry, F. A., Chicago.
Bobzin, R. R., Shipman.
Christensen, A. H., Chicago.
Duncan, Adelaide, Chicago.
Ford, Charles, Waggoner.
Fuller, E. M., Chicago.
Gilmore, W. H., Mt. Vernon.
Graham, E. A., Chicago.
Halperin, George, Chicago.
Heely, O. J., St. Libory.
Klein, Sidney, Chicago.
Klopper, Zan D., Chicago.
Knap, W. H., Chicago.
Kaufmann, G. L., Chicago.
Lachaine, Edmond, Chicago.
Lambert, O. B., Chicago.
Lentz, Nathan, Chicago.
Lewin, Solomon, Chicago.
Lowell, A. D., Chicago.
McLaughlin, A. H., Aurora.
Murray, W. G., Springfield.
Oliver, N. E., Thornton.
Pollock, D. K., Little York.
Potter, H. E., Chicago.
Richards, R. G., St. Davids.
Scott, O. F., Summit.
Sheldon, A. R., Highland Park.
Summers, A. T., Mattoon.
Trauseau, Gertrude H., Charleston.

INDIANA

Baer, S. W., South Bend.
Engle, Walter C., Indianapolis.
Hirshfield, A. C., Indianapolis.
Hutcheson, W. R., Greencastle.
Michle, Mary H., Vincennes.
Reavis, W. J., Evansville.
Shanklin, V. A., West Terre Haute.
Stallings, F. L., Posey Co.
Stephenson, C. E., Indianapolis.
Sudranski, Charles, Greencastle.

IOWA

Bennett, G. J., Denver.
Best, E. E., Clarion.
Bos, C. N., Pella.
Brackney, H. J., Sheldon.
Bryant, A. J., Blairstown.
Chamberlain, B. H., Wyoming.
Coe, P. W., State Center.
Cross, G. B., Plainfield.
Dunshee, J. D., Woodburn.
Gillmor, B. F., Red Oak.
Grant, A. F., Taylor Co.
Keith, W. E., Lost Nation.
King, J. E., Anamosa.
Klinefelter, L. E., Rockford.
Lass, D. G., Ocheyedan.
Leech, L. J., West Branch.
McLean, J. W., Fayette.
Miller, W. B., Centerville.
Moerke, A. C., Burlington.
Mulnix, J. A., Dows.
Pelletier, D. H., New Hartford.
Peppers, J. L., Goldfield.
St. Clair, F. E. E., Hampton.
Seabloom, J. L., Red Oak.
Smith, J. C., Woolstock.
Stevens, F. A., Belmond.
Tompkins, E. D., Clarion.

KANSAS

Carpenter, C. R., Leavenworth.
Carr, W. A., Junction City.
Dildine, A. R., Portland.
Hill, J. N., Osawatomie.
Longacre, C. E., Westphalia.
Mayfield, Claud, Hutchinson.
Wickersham, E. C., Independence.
Wortman, J. G., Mound City.

KENTUCKY

Biggers, J. A., Louisville.
Coleman, W. H., Louisville.
Cook, C. J., Belmont.
Dunn, J. H., Lee City.
Ellis, J. W., Masonville.
Grant, W. E., Louisville.
Hayden, J. V., Salem.
Keffer, Smithfield, Clintonville.
Kieffer, F. L., Covington.
Markwell, Chas., Versailles.
Onderdonk, W. A., Louisville.
Popham, A. E., Uniontown.
Ridley, J. U., Robards.
Rubel, H. M., Louisville.
White, J. G., Cerulean.
Whitis, Mack, Benge.
Wilson, D. S., Louisville.

LOUISIANA

Chalaron, F. J., New Orleans.
Morey, J. C., Centerville.
Robert, J. J. Jr., Norwood.

MARYLAND

Beitler, F. V., Halethorp.
Benner, C. M., Taneytown.
Chambers, G. F., Lusbys.
Conradi, F. A., Baltimore.
Diller, C. H., Detour.
Forster, A. M., Towson.
Galloway, G. F., Federalsburg.
Geroghty, J. T., Baltimore.
Haynes, H. H., Baltimore.
Hoag, J. Morley, Baltimore.
Hoff, D. E., Hagerstown.
Johnson, T. B., Frederick.
Johnston, E. H., Baltimore.
Maynard, S. S., Frederick.
Nice, J. A., Lisbon.
DeNoonley, T. F., Frostburg.
Sappington, C. T., Frederick.
Seiss, F. H., Taneytown.
Webster, J. B., Raspeburg.
White, W. W., Baltimore.
Zepp, H. E., Baltimore.

MASSACHUSETTS

Beaulien, E. J., Whitman.
Holden, W. D., Haverhill.
Hollings, Byam, Winthrop.
Jones, J. A., Lynn.
Hurly, E. D., South Boston.
Keegan, C. A., Arlington.
Kinnicutt, Roger, Worcester.
MacDonald, W. C., Malden.
McCaffrey, C. F., Somerville.
Murphy, Anna F., Worcester.
Smith, Myrtle, Worcester.
Smith, R. M., Boston.
Sobotky, Irving, Boston.
Stephens, F. N., Somerville.
Sullivan, J. T., Boston.
Winslow, B. S., New Bedford.

MICHIGAN

Bauch, G. F., Lansing.
Bliss, G. L., Three Rivers.
Braley, F. W., Saranac.
Crane, C. V., Tawas City.
Gustin, J. W., Bay City.
Hotvedt, I. M. J., Muskegon.
Kinsey, F. C., Three Rivers.
McComb, E. V., Menominee.
Munro, D. D., Kinde.
Rutledge, J. C., Detroit.
Sherman, A. T., Detroit.
Trumble, G. W., Bay City.
van Urk, Thomas, Kalamazoo.
Van Zwaluwenburg, J. G., Ann Arbor.

MINNESOTA

Benson, O. O., Sacred Heart.
Christiansen, Jas., Alden.
Dohm, A. J., St. Paul.
Durgin, F. L., Winnebago.
Jellison, E. R., Foley.
Kohler, G. A., Minneapolis.
McDermott, T. E., Minneapolis.
Miller, V. I., Westbrook.
Moen, J. K., Minneapolis.
Smith, M. W., Red Wing.
Stone, J. L., Minneapolis.
Voyer, E. O., Minneapolis.

MISSISSIPPI

Coleman, O. G., Coffeeville.
Cryer, W. H., Columbus.
Stephens, G. W., Meridian.
Weeks, W. H., Doddsville.

MISSOURI

Atkins, W. A., Rogersville.
Brewer, Lake, Ridgeway.
Carpenter, G. W., Utica.
Crank, A. C., Pittsville.
DeMenil, H. N., St. Louis.
Guhman, J. O., St. Louis.
Herbst, Frank, Kansas City.
Hooper, C. L., Ardmore.
Lipsitz, S. T., St. Louis.
Maltby, Burton, Liberty.
Morgner, Omar, St. Charles.
Ryan, F. M., Quitman.
Schwarz, Henry, St. Louis.
Shelton, W. J., St. Joseph.
Smith, M. A., Gallatin.
Tabacnie, Maxwell, St. Louis.
Wolf, A. S., St. Louis.

MONTANA

Arnold, M. H., Billings.
Brasier, O. V., Butte.

NEBRASKA

Coats, A. J., Lincoln.
Colburn, W. O., Stuart.
Dishong, G. W., University Place.
Kelley, Ernest, Norfolk.
Morris, D. F., Lewellen.
Rockwell, Orville, College View.

NEVADA

Toogood, J. E., Virginia City.

NEW HAMPSHIRE

Craig, Willie P., Walpole.

NEW JERSEY

Bacevycze, A. M., Newark.
Bennett, J. K., Gloucester.
Bullock, E. C., Columbus.
Calhoun, Charles, Rutherford.
Cladek, Walter E., Rahway.
Cohn, Hermann, Newark.
Converse, C. B., Jersey City.
Culver, G. M., Jersey City.
Dickinson, E. A. L., Trenton.
Dundan, A. H., Plainfield.
Dunkel, E. K., Jersey City.
English, S. B., Glen Gardner.
Granger, W. R. R., Newark.
Harden, A. S., Newark.
Hawke, E. S., Trenton.
Hicks, W. H., Newark.
Hood, Bruno, Newton.
Loper, J. C., Bridgeton.
Marcy, F. W., Camden.
Morrill, J. P., Paterson.
Osmun, M. M., Camden.
Prickett, E. D., Mt. Holly.
Pyle, W. L., Jersey City.
Saunders, O. W., Camden.
Smith, H. S., Newark.
Wagner, Otto, Elizabeth.
Walscheid, A. J., Weehawken.
Wilson, H. H., Bridgeton.

NEW MEXICO

Caulson, Richard, Tucumcari.
Herring, B. F., Tucumcari.

NEW YORK

Abrahams, Robert, New York City.
Albones, A. W., Frankfort.
Ambos, C. L., New York City.
Armstrong, A. S., New York City.
Auel, C. H. W., Buffalo.
Bailey, F. D., Brooklyn.
Barringer, T. B., Jr., New York City.
Beale, A. E., Schagliticoke.
Becker, J. I., Cairo.
Becker, LeRoy, Cobleskill.
Benedict, A. N., Yonkers.
Blaisdell, S. C., New York City.
Bleiman, Asher, New York City.
Boeker, Hermann, New York City.
Boyd, C. S., New York City.
Brennan, J. H., New Rochelle.
Caldwell, W. E., New York City.
Callender, G. R., New York City.
Carlisle, L. N., Mt. Vernon.
Carlucci, Francisco, New York City.
Chaffe, C. F., Rochester.
Coe, W. H., Auburn.
Demarest, Sylvester, Suffern.
Dietrich, A. E., Bay Shore, L. I.
Dattelbaum, M. J., Brooklyn.
Egan, C. J., New York City.
Erdmann, A. F., Brooklyn.
Evarts, H. C., New York City.
Frazier, L. A., Amsterdam.
Freutel, A. J., New York City.
Gillett, J. R., Kingston.
Glogau, Otto, New York City.
Goldberg, J. M., Brooklyn.
Golding, J. E., Brooklyn.
Griffin, J. F., Brooklyn.
Guile, E. B., Utica.
Hennington, C. W., Rochester.
Heydecker, H. R., New York City.
Hollister, F. C., New York City.
Hough, W. D., Niagara Falls.
Howard, Tasker, Brooklyn.
John, David, Yonkers.
Kane, J. J., Binghamton.
Lefkowics, Bartholomew, Manhattan.
Lewis, J. S., Buffalo.
Linder, John, Brooklyn.
Lord, M. S., Schenectady.
Macy, Mary S., New York City.
Medrick, R. F., Port Jervis.
Moak, C. H., New York City.
Morton, R. S., New York City.
Motham, L. D., Elmira Heights.
Neuwelt, Louis, New York City.
Palmer, W. E., Hornell.
Parry, Eleanor, New York City.
Perrone, Ettore, New York City.
Pierce, W. R., Amsterdam.
Price, J. Woods, Saranac Lake.
Raabe, Alfred, New York City.
Rasbach, F. B., Buffalo.
Redmond, F. J., Fillmore.
Reed, W. E., Washingtonville.
Riche, Paul, New York City.
Ringland, J. B., Oswego.
Rogers, W. H., Jr., Brooklyn.
Rooker, A. M., Niagara Falls.
Rose, M. C., New York City.
Rudisch, Julius, New York City.
Russell, S. A., Fulton.
Sachs, Ernest, New York City.
Seymour, Nan Gilbert, New York City.
Skinner, B. D., Greenport.
Smith, S. W., New York City.
Snyder, Frederick, Rosendale.
Somers, J. A., Brooklyn.
Squier, H. N., Utica.
Staebler, D. M., Brooklyn.
Steensland, H. S., Syracuse.
Stephens, C. B., Wallace.
Steurer, J. A., New York City.
Stevens, C. T., New Rochelle.
Stevens, J. W., Brooklyn.
Thomas, A. R., West Eaton.
Wallin, A. C., New York City.
Walsh, T. J., Buffalo.
Warner, H. S., Brooklyn.
Weiher, C. L., New York City.
Wheeler, J. M., New York City.
White, J. S., South Glens Falls.
Wilklow, G. F., Wurtsboro.
Williams, H. B., New York City.
Wolfert, B. E., Brooklyn.
Woolsey, L. E., Hancock.

NORTH DAKOTA

Douglas, F. A., Fessenden.
Harwood, C. B., Hope.
McMurtry, W. C., Wolford.
Rudell, G. L., Plaza.

OHIO

Biddle, D. H., Athens.
Bigelow, L. L., Columbus.
Blair, Thomas, Lyons.
Carson, A. I., Cincinnati.
Chambers, J. W., Bays.
Coburn, R. C., Upper Sandusky.
Davison, O. C., Bethel.
Haas, S. L., Cleveland.
Henning, E. R., Bellefontaine.
Hyde, A. G., Cleveland.
Ireton, E. C., Marathon.
Jewitt, R. A., Cleveland.
Jones, J. C., Dillonvale.
Levenberg, Bernard, Cleveland.
McCurdy, L. C., Coshocton.
Ruflin, C. A., Louisville.
Scarnecchia, Joseph, Youngstown.
Taylor, W. H., Youngstown.
Wassermann, S., Cleveland.

OKLAHOMA

Ames, H. B., Burlington.
Anderson, F. A., Claremore.
Butler, W. R., Maud.
Gorton, Mary L., Pawnee.
Gray, J. W., Quinton.
Harrington, W. E., Lahoma.
McVicker, W. D., Garber.
Neely, J. M., Oklahoma City.
Rutherford, Lafe, Sapulpa

OREGON

Baird, A. W., Portland.
Robinson, David, Mosier.
Schleef, H. C., Cottage Grove.
Sether, A. F., Roseburg.

PENNSYLVANIA

Aiken, T. G., Berwyn.
Aydelotte, J. T., Philadelphia.
Bachman, H. S., Philadelphia.
Bachman, M. H., McKeesport.
Bang, E. O., South Canaan.
Beale, J. E., Coal Dale.
Beyer, W. F., Punxsutawney.
Bishop, A. L., Philadelphia.
Borcer, O. P., Philadelphia.
Borzell, F. F., Cressman.
Bower, A. E., Ford City.
Bradley, C. D., Ford City.
Brundage, R. A., Pittsburg.
Brunner, H. P., Reading.
Buka, A. J., Pittsburg.
Butt, W. R., Philadelphia.
Cartin, H. J., Johnstown.
Cole, T. P., Greensburg.
Collins, James, Bristol.
Creighton, W. J., Philadelphia.
Crist, E. G. W., Lisburn.
Dalsimer, Leon, Philadelphia.
Davidson, C. H., New Salem.
Delaney, C. W., Altoona.
Dille, G. W., Cooperstown.
Dolley, G. C., Philadelphia.
Donaldson, J. S., Bellevue.
Dorrance, G. M., Philadelphia.
Dotterer, C. B., Boyertown.
Dunn, L. S., Chester.
Eastman, Henry, Pittsburg.
Field, G. B. Wood, Easton.
Frescoln, L. D., Philadelphia.
Getty, Mary, Philadelphia.
Glenn, T. O., Bradford.
Glenn, W. S., State College.
Grier, G. W., Pittsburg.
Grime, R. T., Philadelphia.
Gummey, F. B., Philadelphia.
Hamilton, S. S., Punxsutawney.
Harshberger, A. S., Lewistown.
Hofkin, A. F., Philadelphia.
Hope, P. T., Mercer.
Hostetter, J. E., Gap.
Howell, W. H., Altoona.
Hunter, J. W., Philadelphia.
Ingham, S. D., Philadelphia.
Judson, C. F., Philadelphia.
Keech, H. B., Philadelphia.
Keller, H. M., Hazleton.
Kirk, C. B., Fishertown.
Kramer, J. G., Pottsville.
Lane, D. W., Philadelphia.
Leaman, Rosh, Philadelphia.
Lehman, C. G., Newberry.
Lehman, J. R., Mountville.
Longshore, J. B., Philadelphia.
Lurting, C. W., Pittsburg.
Markel, J. C., Pittsburg.
McCord, W. C., Mars.
MacLachlan, A. A., Pittsburg.
McDowell, Katharine R., Philadelphia.
McEntire, O. W., Howard.
McLaughlin, C. M., Freeport.
McLaughlin, J. J., Philadelphia.
McNaul, W. J., Philadelphia.
Miller, E. B., Philadelphia.
Miller, H. E., Milroy.
Moore, E. W., Franklin.
Neff, J. S., Philadelphia.
Newton, R. D., Philadelphia.
O'Connell, J. A., Philadelphia.
Oblman, I. L., Pittsburg.
Palmer, C. L., Mt. Lebanon.
Pancoast, J. W., Philadelphia.
Pease, T. N., Philadelphia.
Plank, E. R., Carlisle.
Podolski, L. A., Philadelphia.
Randall, W. F., Dushore.
Ray, W. B., Glenshaw.
Read, John, McKeesport.
Reese, G. W., Mahanoy City.
Reid, R. A., Zelienople.
Riethmüller, A. H., Millvale.
Ruffell, C. E., Philadelphia.
Sands, J. S., Bristol.
Scheehle, J. E., Philadelphia.
Schleiter, H. G., Pittsburg.
Schoening, J. J., Philadelphia.
Shearer, C. H., Reading.
Shoenthal, H. L., New Paris.
Smith, C. D., Philadelphia.
Smith, E. L., Schellburg.
Stein, N. H., Middleport.
Stewart, H. H., Friedensburg.
Taylor, W. H., Irwin.
Thomas, Anne H., Philadelphia.
Travis, G. S., E. Stroudsburg.
Tull, M. G., Philadelphia.
Turner, Annie L., Philadelphia.
Tuttle, Lucius, Philadelphia.
Umstad, G. B. R., Phoenixville.
Van Buskirk, W. L., Scranton.
Wallace, N. C., Dover.
Weakley, W. S., York.
Wetmore, S. S. P., Morrisville.
Wilson, L. F., Greensburg.
Wilson, R. L., Jeannette.
Woods, W. W., Rixford.

RHODE ISLAND

Heussey, J. P., Providence.
Palmer, H. G., Providence.
Risk, W. A., Providence.

SOUTH CAROLINA

Blakely, S. F., Spartanburg.
Doyle, T. C., Orangeburg.
Williams, H. B., Honea Path.

SOUTH DAKOTA

Miller, V. M., Mellette.
Whiteside, Jesse D., Aberdeen.

TENNESSEE

Anderson, C. F., Nashville.
Bryon, O. N., Nashville.
Chanceller, S. E., Elbridge.
Foster, J. L., Huntsville.
Hayward, O. M., Chattanooga.
Macon, R. B., Clarksville.
Malone, F. M., Capleville.
Oppenheimer, R. P., Knoxville.
Phillips, T. L., Newland.

TEXAS

Baird, T. H., Otto.
Barron, W. P., Carmona.
Bland, L. F., Port Arthur.
Bledsoe, M. F., Rockland.
Draper, R. H., Sparta.
Gibner, G. P., Knox City.
Hall, H. S., Newton.
Janes, A. M., Anson.
LeGrand, G. F., Hereford.
Markham, L. N., Longview.
Martin, J. E., Bruceville.
McMeans, A. A., Webb Co.
Miller, J. R., Port Bolivar.
Moore, T. F., Galveston.
Porch, C. L., Glazier.
Roberts, J. Thomas, San Marcos.
Smith, W. R., Lassater.
Spurgin, A. M., Dallas.
Warren, C. D., Houston.
Wilson, R. G., Odessa.
Wilson, W. T., Navasota.
Wright, J. B., Princeton.
Young, J. W., Roscoe.

UTAH

Allison, R. S., Clear Creek.
Moormeister, F., Salt Lake City.
Warner, W. E., Spanish Fork.

VERMONT

Clark, F. E., Burlington.
Eastwood, J. S., Brandon.
Norris, F. W., Swanton.
Smith, R. E., Rutland.
Shea, D. A., Burlington.

VIRGINIA

Caldwell, J. K., Galax.
Catts, S. R., National Soldiers Home.
Christian, W. G., Gordonsville.
Compton, R. F., Charlottesville.
Copeland, E. V., Round Hill.
Crenshaw, J. L., Charlottesville.
Culpepper, J. H., Norfolk.
Early, J. E., Charlottesville.
Eastham, Granville, Rapidan.
Garnett, R. W., Charlottesville.
Hinchman, J. D., Richmond.
Kern, R. L., Richmond.
Kerns, W. W., Bloxam.
Labenberg, C. A., Richmond.
Lile, Samuel, Lynchburg.
Marchant, C. D., Harmony Village.
Peyser, Mark W., Richmond.
Strother, W. J., Culpeper.
Taylor, Philip, Richmond.
Tucker, R. D., Powhatan.

WASHINGTON

Appleton, T. J., Seattle.
Belden, G. G., Spokane.
Brandt, A. L., Mt. Vernon.
Frost, W. S., Spokane.
Schlegel, H. E., Spokane.
Schwabland, W. W., White Bluffs.
Smith, Carroll, Spokane.

WEST VIRGINIA

Donehoo, R. S., Fairview.
Easley, E. M., Bluefield.
Fulton, W. S., Wheeling.
Hannah, U. H., Spruce.
Johnson, I. B., Laneville.
Kerr, W. W., Volga.
Lucas, J. B., Maybeury.
Martin, C. A., Harvey.
Miller, W. D., Weaver.
McLaughlin, J. M., Webster Springs.

Ogden, G. R., Flemington.
Post, W. H., Masontown.
Pratt, C. E., Wheeling.
Scott, B. F., Terra Alta.
Shirkey, D. W., Clendenin.
Spillman, J. W., New Cumberland.
Stone, S. M., Tomsburg.
Swimley, G. W., Bunker Hill.
Trach, J. M., Farmington.
Werner, H. R., Thomas.
Woofter, J. V., Leopold.

WISCONSIN

Baker, J. C., Hawkins.
Beebe, C. M., Sparta.
Bonesein, G. F., Detroit Harbor.
Cahoon, Roger, Baraboo.
Fox P. A., Beloit.
Higgins, E. G., Melrose.
Lambeck, F. J., Milwaukee.
Loge, E. S., Milwaukee.
Lundmark, L. M., Ladysmith.
Miller, W. S., Madison.
Nicholson, J. D., Balsam Lake.
Nowack, L. H., Watertown.
O'Connell, J. E., Menasha.
Patek, A. J., Milwaukee.
Stephenson, W. L., Ladysmith.
Stoddard, C. H., Milwaukee.
Trankle, H. M., Bloomer.

WYOMING

Hawk, J. W., Green River.
Richards, J. R., Thermopolis.
Shingle, J. D., Cheyenne.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARIZONA: Phoenix, July 5-6. Sec., Dr. Ancil Martin.

ARKANSAS HOMEOPATHIC: Little Rock, July 13. Sec., Dr. P. C. Williams, Texarkana.

COLORADO: Denver, July 6. Sec., Dr. S. D. VanMeter, 1723 Tremont Place.

CONNECTICUT: Regular, New Haven, July 13-14. Sec., Dr. Charles A. Tuttle, 196 York St.; Homeopathic, New Haven, July 13. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, New Haven, July 13. Sec., Dr. T. S. Hodge, 17 Main St., Torrington.

DELAWARE: Dover and Wilmington, June 15-17. Sec., Dr. Henry W. Briggs, Wilmington.

DISTRICT OF COLUMBIA: Washington, July 13-16. Sec., Dr. George C. Ober, 210 B St., S. E.

ILLINOIS: Coliseum Annex, Chicago, June 16-18. Sec., Dr. J. A. Egan, Springfield.

INDIANA: 120 State House, Indianapolis, July 13-15. Sec., Dr. W. T. Gott.

IOWA: Des Moines, June 22-24. Sec., Dr. Louis A. Thomas, Des Moines.

MAINE: State House, Augusta, July 13-14. Sec., Dr. Frank W. Searle, 806 Congress St., Portland.

MARYLAND: Baltimore, June 15-18. Sec., Dr. J. M. Scott, Hagerstown. Homeopathic: Baltimore, June 15-17. Sec., Dr. Joseph S. Garrison, 848 W. North Ave.

MINNESOTA: Minneapolis, June 15. Sec., Dr. W. S. Fullerton, St. Paul.

NEW JERSEY: State House, Trenton, June 15-16. Sec., Dr. J. W. Bennett, Long Branch.

NEW HAMPSHIRE: Concord, July 2-3. Regent, Mr. H. C. Morrison.

NEW MEXICO: Santa Fe, July 12. Sec., Dr. J. A. Massie.

NEW YORK: Albany, June 22-25. Chief of Examinations Division, Dr. Charles F. Wheelock, Albany.

NORTH DAKOTA: Grand Forks, July 6-8. Sec., Dr. H. M. Wheeler.

OKLAHOMA: Guthrie, July 13. Sec., Dr. Frank P. Davis, Enid.

OREGON: Portland, July 6. Sec., Dr. R. C. Coffey.

PENNSYLVANIA: Philadelphia and Pittsburg, June 22-25. Sec., Mr. Nathan C. Schaeffer, Harrisburg.

RHODE ISLAND: Room 313, State House, Providence, July 1-2. Sec., Dr. Gardner T. Swarts, 315 State House.

SOUTH DAKOTA: Watertown, July 14-15. Sec., Dr. H. E. McNutt, Aberdeen.

TEXAS: Cleburne, June 22-24. Sec., Dr. M. E. Daniel, Honey Grove.

UTAH: Salt Lake City, July 5. Sec., Dr. G. F. Harding, 310 Templeton Bldg.

VERMONT: Burlington, July 13-15. Sec., Dr. W. Scott Nay, Underhill.

VIRGINIA: Richmond, June 22-25. Sec., Dr. R. S. Martin, Stuart.

WASHINGTON: Seattle, July 6-8. Sec., Dr. Kenneth B. Turner, Walker Bldg.

WEST VIRGINIA: Charleston, July 13-15. Sec., Dr. H. A. Barbee, Point Pleasant.

WISCONSIN: Madison, July 13-15. Sec., Dr. J. V. Stevens, Jefferson.

WYOMING: Laramie, June 23-25. Sec., Dr. S. B. Miller.

Kansas February Report

Dr. R. A. Light, secretary of the Kansas Board of Medical Registration and Examination, reports the written examination held at Topeka, Feb. 9, 1909. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 22, of whom 21 passed and 1 failed. The following colleges were represented:

PASSED		
College	Year Grad.	Per Cent.
Northwestern University Medical School	(1902)	85.
Hahnemann Medical College and Hospital, Chicago	(1908)	84.
Indiana University	(1908)	81.
Keokuk Medical College, Coll. of P. and S.	(1908)	75, 79, 82
Kansas Medical College	(1908)	80, 81, 83
University of Kansas	(1906) 85; (1908)	89.
St. Louis College of Physicians and Surgeons	(1908)	80.
Ensworth Medical College	(1906) 80; (1908)	76, 81, 82.
University Medical College, Kansas City	(1907)	77.
Barnes Medical College	(1908)	84.
Kansas City Homeopathic Medical College	(1896)	76.
Creighton Medical College	(1906)	80.
University of Bukharest, Roumania	(1901)	82.

FAILED		
Louisville and Hospital Medical College	(1908)	72.5

Oklahoma January Report

Dr. Frank P. Davis, secretary of the State Board of Medical Examiners of Oklahoma, reports the written examination held at Chickasha, January 12, 1909. The number of subjects examined in was 15; total number of questions asked, 150; percentage required to pass, 70. The total number of candidates examined was 31, of whom 25 passed and 6 failed. The following colleges were represented:

PASSED		
College	Year Grad.	Per Cent.
Birmingham Medical College	(1906)	88.
University of Arkansas	(1908)	80.
Atlanta College of Physicians and Surgeons	(1902)	83.
Harvey Medical College	(1904)	83.
Hering Medical Colege	(1903)	87.
College of Phys. and Surg., Chicago, (1904) 92,	(1907)	89.
Medical College of Indiana	(1899)	88.
University of Kansas	(1907)	90.
Hospital College of Medicine, Louisville	(1900)	78.
Kentucky School of Medicine	(1897)	82.
University of Louisville	(1904) 72., (1908)	74.
Boston University	(1908)	85.
Marion-Sims-Beaumont College of Medicine	(1903)	84.
St. Louis University	(1908)	83.
University Medical College, Kansas City	(1908)	84.
Barnes Medical College	(1904)	88.
Creighton Medical College	(1905)	88.
Cleveland Homeopathic Medical College	(1906)	82.
Knoxville Medical College	(1908)	77.
Meharry Medical College	(1908)	80.
Vanderbilt University	(1904)	81.
University of West Tennessee	(1908)	71.
University of Texas	(1908)	90.

FAILED		
Chicago College of Medicine and Surgery	(1908)	86.*
Kansas Medical College	(1900)	73.*
Louisville and Hospital Medical College	(1908)	73.*
University of Louisville	(1907)	65.
Barnes Medical College	(1899)	56.
Tennessee Medical College	(1900)	63.

* Failed to receive 50 per cent. in one or more branches.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

McCormack in Missouri

Dr. McCormack has terminated a month of remarkably successful meetings in Missouri, having given his entire time during May to this work. The press notices received show unusual interest, while the attendance at practically all of the meetings was large and enthusiastic. Extracts from a few of the newspaper comments follow:

The Maryville *Tribune*, besides giving an extended account of the lecture, said editorially: "Monday was a great day for the physicians of Maryville and those who heard Dr. McCormack speak. Startling truths, clothed in chaste words and phraseology, sent fathers and mothers home to think about these evils of society which are best judged from the physician's standpoint. The one great proof of the facts which he uttered was the spirit of unselfishness in which advice was given, in which he showed what the medical profession has, can and will do for the human race. . . . Dr. McCormack's visit to Maryville did good which can never be estimated. It set people to thinking, and in doing so accomplished that to which many men in carrying on a work fail to attain."

The Maryville *Republican* says: "One good result coming from the meeting was the referring of the matter of appointing a committee to investigate the public health conditions of Maryville to the mayor and city council. The council was requested to appoint a committee to investigate the probable sources of menace to the health of the city. . . . Probably not in years has such an address caused so much thinking on

the part of the people of Maryville. Startling statements proving the great and common disregard for health surprised the big audience."

The *Chillicothe Constitution* says editorially: "The business of the physician has reached a higher level than that of merely doctoring symptoms and alleviating pain. . . . The studious, honest physician has progressed beyond this stage. He is not only a healer, but an educator. He looks over and beyond the dollar and exercises the part of a humanitarian and takes to himself the burden of being to a certain extent his brother's keeper. It is much better that disease should be prevented than that it should be cured. It is much more beneficial to the people of America that they know how to observe the laws of health and sanitation and that they preserve their bodies from contagion and infection than that new methods of curing illness should be discovered. The Chillicothe physicians are to be congratulated on having secured the services of Dr. McCormack as a lecturer here, and on the broad spirit of progressiveness that leads them to take part in such a movement as Dr. McCormack represents." The *Constitution* also says editorially, in a later issue, under the title "Needed Health Reforms:" "The criticisms leveled against the country at large, the state of Missouri and the Missouri municipalities regarding their neglect of the public health, uttered by Dr. J. N. McCormack of the American Medical Association in Chillicothe recently, were not only timely, but were amply justified." The editorial then comments on the need of a vital statistics law in Missouri and urges the adoption of such a statute. It is gratifying to note that in the last few weeks a thoroughly satisfactory vital statistics law has been adopted in Missouri, due largely to the efforts of the organized medical profession of the state.

At Kirksville, Mo., the local press gave lengthy notices of the meetings, both before and after, and said: "Dr. McCormack is a forceful speaker and held his audience in the closest attention with his presentation of naked truths and facts that made the average man and woman think that perhaps this manner of physical life could be improved on." Editorially, the *Daily Express* says: "Dr. McCormack's recent lecture has stirred things up in this old town. The lectures served as an eye opener on some things."

The Hannibal *Morning Journal* says: "Dr. McCormack is delivering these timely health talks in cities all over the country and is doing a great deal of good. . . . Last night a magnificent audience, composed of representative citizens of this community, assembled at the high school auditorium to listen to a masterly address. Dr. McCormack is a splendid speaker, and held the undivided attention of the audience from the beginning to the close of his remarks."

The Sedalia *Democrat-Sentinel* says: "Dr. McCormack's talk was interesting because he spoke the truth, because he spoke entertainingly and convincingly, giving facts and figures to prove his arguments, because he struck out fearlessly, exposing sins of omission and commission, hitting a head wherever he saw it, then pouring the oil of kindness and humanity on the wound he was compelled to make. His object in making these exposures was not merely to criticize, but primarily to bring the facts before his audience so that they could think of and correct them. . . . He held the entire attention of his audience for over two hours."

The above are only a few extracts from a large number of newspaper reports received. The work being done in Missouri is of great value and will produce results of undoubted benefit to the public.

Unqualified Practitioners in England

The interest taken by the medical profession of Great Britain in the question of the practice of medicine by unqualified persons was commented on at length in a previous number of THE JOURNAL. That this interest is sustained and is taking the direction of practical investigation is shown by the circular recently issued to medical officers of health by the local government board, calling attention to the resolutions adopted by the General Medical Council of the British Medical Association, and stating that before taking any steps in the matter the lord-president of the local government board wishes to obtain definite information regarding the extent to which medical practice is carried on by unqualified persons. Local health officers are therefore asked to report whether the practice of medicine and surgery by unqualified persons is increasing and whether the health of the public in the district is affected thereby. The collection of data along this line will undoubtedly furnish much interesting and valuable information.

Marriages

HENRY ANTHONY STRECKER, M.D., to Miss Nellie Marie Carroll, both of Philadelphia, Pa., June 2.

FRANK G. CROWELL, M.D., to Miss Nettie Cratty, both of Rochelle, Ill., May 19.

ROBERT L. BONE, M.D., Madisonville, Ky., to Miss Adele Lewis, at Baltimore, May 28.

ELIOT BISHOP, M.D., Brooklyn, N. Y., to Miss Pearl Rogers of Wilkes-Barre, Pa., June 1.

HARRY J. WILLEY, M.D., Lawrence, Kan., to Miss Mabel Green of Thayer, Kan., May 18.

EDWARD MEYER, M.D., New York City, to Miss Margaret E. McLaurine, at Baltimore, May 21.

EDGAR H. LITTLE, M.D., to Miss Gertrude Cline, both of East St. Louis, Ill., at Vandalia, Ill., May 24.

EDWARD MITCHELL VAUGHAN, M.D., to Miss Marie Hepburn Nowland, both of Middletown, Del., June 1.

G. MEMORY CHAPMAN, M.D., Logan's Store, N. C., to Miss Annie B. Ford of Hickory, N. C., May 19.

WILLIAM MCCULLY JAMES, M.D., Ancon, Panama, to Miss Mary Gurley McCulloch, at Ancon, May 1.

SAMUEL J. SMART, M.D., Logansport, La., to Miss Cora Wallace of Centennial, Texas, at Shreveport, La., May 23.

PERRY C. BENTLE, M.D., Greensburg, Ind., to Miss Pearl Booth of Rush county, Ind., at Rushville, Ind., May 28.

Deaths

Henry Chrysostom Keenan, M.D. College of Physicians and Surgeons, New York City, 1895; a member of the Medical Society of the State of New York; president of the Brooklyn Gynecological Society; associate gynecologist to St. Mary's General Hospital, and gynecologist to St. Mary's Maternity Hospital; a police surgeon of Brooklyn for ten years; died in the Cumberland Street Hospital, Brooklyn, June 1, as the result of injuries received in a runaway accident received an hour before, aged 36.

Philo D. St. John, M.D. College of Physicians and Surgeons, New York City, 1883; formerly surgeon to the Rock Island System at Wichita, Kan.; a member of the Kansas State Board of Health in 1896 and 1897; from 1892 to 1896 city physician of Wichita; and a member of the staff of the Wichita and St. Francis hospitals; died at his home in Wichita, May 23, from accidental poisoning by carbolic acid, aged 57.

John T. Binkley, M.D. Pennsylvania Medical College, Philadelphia, 1852; of Evansville, Ind.; for many years a member of the American Medical Association; some-time professor of physiology in the Hospital College of Medicine, Evansville; was found dead in the Wellington Hotel, Chicago, June 2, aged 82, from the effects of a gunshot wound of the skull, believed to have been inflicted by a thief.

John Alexander Geisendorffen, M.D. Marion-Sims Medical College, St. Louis, 1891; Jefferson Medical College, Philadelphia, 1893; a member of the American Medical Association and Pacific Coast Association of Railway Surgeons; local surgeon to the Oregon Railway and Navigation Company at The Dalles, Ore.; died in St. Vincent's Hospital, Portland, Ore., May 26, from meningitis, aged 43.

Martin Henry Luken, M.D. Rush Medical College, Chicago, 1873; a member of the American Medical Association, Chicago Pathological Society and German Medical Society; for many years attending gynecologist to St. Elizabeth's Hospital and a member of the staff of the Norwegian Lutheran Tabitha Hospital, Chicago; died at the home of his brother in Chicago, June 5, aged 58.

Arthur M. Thome, M.D. Rush Medical College, Chicago, 1851; assistant surgeon in the Army during the Civil War, and later superintendent of the U. S. Marine Hospital, Keokuk, and professor of anatomy in Keokuk Academy; a minister in the Congregational church since 1866; died at his home in Chicago, May 28, aged 86.

Elizabeth D. Kane, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1883; a member of the American Medical Association; who confined her practice to the poor at her home in Kane, Pa.; prominent in educational, temperance and philanthropic affairs; died at her home in Kane, May 25, aged 73.

Floriman James Taylor, M.D. Rush Medical College, Chicago, 1881; of Pittsfield, Maine; a member of the Maine Medical Association, and secretary of the Board of U. S. Pension Examining Surgeons for Somerset county; died at the home of his mother in Drayden, Maine, May 24, from pneumonia, aged 54.

Charles Ellery Stedman, M.D. Harvard Medical School, Boston, 1865; a member of the Massachusetts Medical Society; from 1861 to 1865 assistant surgeon in the U. S. Navy; and visiting surgeon to the Boston City Hospital from 1872 to 1886; died at his home in Brookline, Mass., May 24, aged 78.

George R. Pattillo, M.D. Medical College of Georgia, Augusta, 1876; for many years a member of the state and national medical associations; and formerly local surgeon for the Georgia Railroad at Culverton, Ga.; died at his home in Camak, Ga., May 23, from pneumonia, aged 58.

George O. Johnson, M.D. University of Maryland, Baltimore, 1869; of Fort Cobb, Okla.; a member of the American Medical Association; a member of the senate in the first and second legislatures of Oklahoma; died in Guthrie, February 10, from asphyxiation by natural gas, aged 63.

William S. Huber, M.D. University of Pennsylvania, Philadelphia, 1888; president of the select council of Lebanon, and of the Union Fire Company; a member of the surgical staff of the Good Samaritan Hospital; died at his home in Lebanon, May 25, from cerebral hemorrhage, aged 43.

Thales Irving Stanton, M.D. University of Vermont, Burlington, 1877; New York University, New York City, 1878; for thirty years a practitioner of Baltic, Conn.; died suddenly at his home in Franklin, Conn., May 26, from heart disease, aged 60.

John J. Ward, M.D. Albany (N. Y.) Medical College, 1869; a member of the Medical Society of the State of New York; and for more than thirty years health officer of Ellenville, N. Y.; died at his home, May 22, from asthma, aged 75.

Henri Charles Gunkel, M.D. Eclectic Medical Institute, Cincinnati, 1859; for many years president of a bank of Newport, Ky.; died at his home in Newport, May 24, from cerebral hemorrhage, aged 83.

Alexander Leslie McCormack, M.D. New York University, New York City, 1882; for twenty-two years a practitioner of East Boston; died at the home of his brother in Roxbury, May 25, aged 53.

Lucius Josiah Thayer, M.D. Long Island College Hospital, Brooklyn, N. Y., 1895; physician of the Shawmut Company, Elbon, Pa., for several years; died in Crenshaw, Pa., May 28, from cocain poisoning.

Richard R. Thompson, M.D. Reform Medical College, Macon, Ga., 1854; a lieutenant in the Confederate service during the Civil War; died at his home in Cedartown, Ga., April 10, from influenza, aged 77.

Henry T. Cotton, M.D. Medical College of Indiana, Indianapolis, 1875; for fifty years a practitioner of Boone county, Ind.; died at his home in Zionville, May 29, from cerebral hemorrhage, aged 75.

Thomas L. Browne, M.D. McGill University, Montreal, 1881; for many years a medical officer of the Quebec militia; died suddenly at his home in Richmond, Que., May 26, from heart disease, aged 57.

John D. Sherer, M.D. University of Pennsylvania, Philadelphia, 1880; a member of the Medical Society of the State of New York; died at his home in Waterford, May 25, aged 52.

George Aldomer Cox, M.D. Albany (N. Y.) Medical College, 1868; a veteran of the Civil War; died suddenly at his home in Albany, May 21, from angina pectoris, aged 63.

Thomas Johnson Fain, M.D. Hospital College of Medicine, Louisville, 1897; a member of the Montana State Medical Association; died at his home in Norris, May 29, from tuberculosis, aged 37.

Leonard C. Whitford, M.D. Bennett Medical College, Chicago, 1870; for nearly thirty years a practitioner of Seattle, Wash.; died at his home May 26, aged 72.

Whitfield Murphey Buie, M.D. University of Louisville (Ky.), 1871; died at his home in Mertens, Texas, May 28, from cirrhosis of the liver, aged 61.

Reuben Goucher, M.D. American Medical College, Eclectic, Cincinnati, 1854; formerly of Molalla, Ore.; died at his home in Mulino, Ore., April 19, aged 76.

John Frederick Foard, M.D. Jefferson Medical College, Philadelphia, 1847; died at his home in Statesville, N. C., May 13, from cholera morbus, aged 82.

Gabriel Henry Bane, M.D. Medical College of Ohio, Cincinnati, 1897; died recently at his home in Orangeburg, Ky., from tuberculosis, aged 39.

Thomas Perry Robosson, M.D. University of Maryland, Baltimore, 1859; died at his home in Flintstone, Md., May 28, from paralysis, aged 75.

James B. Womack, M.D. University of Tennessee, Nashville, 1891; died at his home in Baucom, Tenn., May 25, from tuberculosis, aged 45.

Edward H. Graves, M.D. Missouri Medical College, St. Louis, 1878; died at his home in Boody, Ill., May 14, from appendicitis, aged 59.

George C. Pitzer, M.D. Eclectic Medical Institute, Cincinnati, 1866; died at his home in Los Angeles, Cal., May 10, aged 74.

Isadore L. Meyer (license, Kan., 1903); of Hiawatha, Kan.; died suddenly in Oneida, Kan., May 8, from angina pectoris, aged 58.

Marvin W. Cobb (registration, Ohio, 1884); died at his home in Fredonia, N. Y., May 19, from pericarditis, aged 63.

Henry Nebeker, M.D. Jefferson Medical College, Philadelphia, 1876; died at his home in Clinton, Ind., May 25, aged 63.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, ATLANTIC CITY, JUNE 8-11.

American Ophthalmological Assn., New London, Conn., July 14-15.
American Orthopedic Association, Hartford, Conn., June 14-16.
Idaho State Medical Association, Seattle, Wash., July 19.
Maine Medical Association, Portland, June 16-17.
Massachusetts Medical Society, Boston, June 15-16.
New Jersey Medical Society, Cape May, June 23-25.
Medical Society of the State of North Carolina, Asheville, June 15.
Washington State Medical Association, Seattle, July 20.
Wisconsin State Medical Society, Madison, June 30-July 2.

AMERICAN PEDIATRIC SOCIETY

Annual Meeting, held at Lenox, Mass., May 27-28, 1909

The President, DR. CHARLES P. PUTNAM, Boston, in the Chair

The officers elected for the ensuing year were named in THE JOURNAL last week in the department of General News and comment.

President's Address: State Care of Children

DR. CHARLES P. PUTNAM, Boston, urged the members of the society to take up a share of the work of the public institutions for children in their respective communities. These institutions, he said, were in fact great hospitals for chronic patients. The state's children he considered were juvenile offenders, truants, or dependent and neglected children, who should not be pictured as being on the whole healthy and normal. He described in detail the work done along these lines in Boston, and said he thought that the pediatrists were specially qualified by experience and training for this work, and he considered it incumbent on them to take up their share of the work of looking after these unfortunate children.

The Position and Work of the American Pediatric Society Toward Public Questions

DR. THOMAS MORGAN ROTCH, Boston, appealed to the members of the society to aid by their influence the safeguarding of early life. He stated that the chief point which we should aim at would be to persuade the enthusiasts who were doing such good work all over the country in connection with the different phases of early life to understand that they did not

know sufficiently all the different sides of the various questions connected with childhood, to allow them to control all the work themselves. He stated that the many workers who were trying to reform the laws in connection with child labor should understand that their great efforts were appreciated by the medical profession. He, however, had told them it was their province to drag crime out into the broad daylight, by crime meaning the unnecessary and cruel ill-treatment of children, by not legislating for them in a way that would protect them during the formative period of life. In the previous meeting at Chicago, he explained to them that when these children had been rescued from the mills, sweatshops and various kinds of labor, which they were made to perform, before they were ready for it, it was then the province of the pediatrists to decide what these children were able to do. After this had been decided it was the province of the legal profession to inform the legislators what laws should be made for the preservation of child life in the sense of the child's health. He said that this same reasoning applied to those who had charge of the grading of schools and kindergartens and also of the physical sports of both boys and girls during their different stages of development. He explained that the old methods of determining at what age a child should be in the various grades in school and when he should work, for instance, in the mills, had mostly depended on chronologic age, and, again, as to height and weight. Children differed much, even though they were of the same age, in both physical and mental development, and judging development by chronologic age, must be very misleading. For the last three or four years Dr. Rotch had been endeavoring to obtain some more exact index, not of chronologic age, but of development, with the intention of thus deciding when a child should work in the mill by determining whether he had the proper strength derived from a proper development for such work. He presented what he called an anatomic index. He said that the development of the epiphyses presented an important part of a child's development so far as strength was concerned, and so far as showing what stage of development he was in. The epiphyses could be studied in all the joints—shoulder, elbow, knee and ankle—and very fine changes occurred in these joints. The joint which was easiest to read and in that sense most practical for forming an anatomic index was the wrist. In the majority of cases a normally developed wrist represented a normal development of the other joints. This development could be studied in successive grades from birth to 14 years of age by making use of the appearance of the osseous centers of the carpal bones and of the epiphyses of the radius and ulna. A Roentgen-ray picture could be taken of the wrist; this picture would represent a certain stage of development. This classification could be used for all ages, and in this way we could determine whether a child was ready to enter a kindergarten; or in which grade of the school he could be placed; or to what strain in athletic contests he could be allowed to go, and in what form of laborous work he might be employed. The influence of the society should be brought to bear on educators as well as on the child labor committee to induce them to look at the work which they were engaged in from some other point besides that governed by their own especial ideas and the lines in which they were working.

A Report on the Medical Work in the Juvenile Court of Chicago

DR. F. S. CHURCHILL, Chicago, presented this report, which is based on the examination of 2,700 children, appearing before the Juvenile Court of Chicago during the last year; divided into the dependents and delinquents—dependent meaning one with no or ineffectual home care and delinquent meaning one who has transgressed the law. His analysis according to nationality showed 77 per cent. of foreign-born parentage; in proportion to the total population, the Polish lead. He examined as to the abnormalities of these children, paying especial attention to the height, weight and chest growth and the condition of the tonsils and adenoids, the condition of the eyes and ears, the condition of the teeth, heart and lungs, skin, and the frequency of venereal disease. The investigation showed little organic disease among these children. The striking data were the high percentages of carious teeth, enlarged tonsils and cervical glands and defective eyesight, and the frequent occurrence of gonorrhea among the girls. Both boys and girls during the early years ran pretty closely to the normal, though a little below; among the delinquents they were very much below the normal, showing that the strain and stress of life that these children led began to tell on them at about the age of puberty. An exception to this general observation was the weight of the 16-year-old girls, who were shown to be 20 pounds heavier than normal girls and much better developed.

(*To be continued*)

ASSOCIATION OF AMERICAN PHYSICIANS

Twenty-fourth Annual Meeting, held at Washington, D. C., May 11-12, 1909

(Continued from page 1876)

SYMPOSIUM ON TUBERCULOSIS

The Cutaneous Tuberculin Test

DR. LAWRASON BROWN, Saranac Lake, N. Y.: Much work needs to be done with the cutaneous test; it should not be pronounced negative until at least 4, or better 7 days, have elapsed. The old tuberculin should be used, and a 25 per cent. solution is probably as efficient as stronger solutions, but if the test is negative with a 25 per cent. solution, the full strength should be used for the second inoculation. Failure to react to the cutaneous test does not absolutely exclude reaction to the subcutaneous, nor does reaction to the cutaneous test indicate that reaction to the subcutaneous test will always occur. It is difficult to judge of the prognosis from the cutaneous test. Some serums, especially those from patients treated with higher doses of tuberculin, or from animals with high agglutinative powers, when mixed with weak dilutions of tuberculin, tend to retard the cutaneous test.

Sensitization in Tuberculosis

DR. V. C. VAUGHAN, JR., Detroit: Sensitization is an important factor in tuberculosis. A positive reaction following the first instillation of tuberculin into the conjunctival sac is a strong confirmatory evidence of the existence of tuberculosis. A negative reaction following the first instillation of tuberculin into the conjunctival sac is of no value in determining the presence or absence of tuberculosis. A reaction of local sensitization obtained in an eye unaffected by previous instillation is strong evidence against the presence of tuberculosis. Failure to obtain a reaction of local sensitization in an eye unaffected by previous instillation is of no value in the diagnosis of tuberculosis. The treatment of pulmonary tuberculosis by cleavage products obtained from the bacillus itself has been followed by temporary improvement and arrest in certain cases.

The Influence of the Ingestion of Dead Tubercle Bacilli on Infection

DRS. M. J. ROSENAU and JOHN F. ANDERSON, Washington, D. C.: This is in the nature of a preliminary note. We have made some experiments to determine whether the ingestion of dead tubercle bacilli has any influence on subsequent infection. Our first series of experiments was done on guinea-pigs. At present we are carrying on experiments on two other species of animals. Of course, it is well-established that the injection of dead bacilli into animals is followed by local or general results, depending on the number injected, but whether the ingestion of dead tubercle bacilli has any influence is not so clearly established. In the first series we took 100 guinea-pigs and divided them into two lots. To 50 we fed dead bacilli for sixty days. At the end of that time the entire 100 were given large doses of live bacilli, and autopsies performed as soon after death as possible. It was found that on the average those that had been fed with dead bacilli died in 108 days; the controls in 113 days. This question is of practical importance, because in pasteurized milk we frequently ingest

large numbers of dead tubercle bacilli; and also in European countries tuberculous meat is sold, under official supervision, at a lower price. If the ingestion of such material would have any influence on subsequent infection, of course it is a matter of importance to determine the fact, and we hope we may be able to arrive at some definite conclusion on this subject when our experiments are completed.

An Index to Tuberculin Treatment in Tuberculosis by the Minimal Cutaneous Reaction Method

DRS. W. C. WHITE, D. A. L. GRAHAM and K. H. VAN NORMAN, Pittsburg: In a recent paper by White and Graham we described a volumetric quantitative method for applying the cutaneous test of v. Pirquet. In the application of this test we use various percentages of old tuberculin and a definite quantity of 0.01 c.cm. The tuberculin is applied to one spot and protected by an ordinary vaccine shield to allow as complete absorption as possible. From a study of a number of cases we have been able to show that local and constitutional reactions are a part of the same phenomena, and that a definite ratio exists between the amount of tuberculin applied cutaneously and that given subcutaneously for the production of local and constitutional reactions. We have found that one-fifteenth of the amount of O. T. which when applied to the skin by our method will produce the minimal cutaneous reaction, will when given subcutaneously produce both local and constitutional reactions; that one-thirtieth of that same amount subcutaneously will produce local reaction without constitutional, and that one-fiftieth of the minimal cutaneous reaction dose will produce neither local nor constitutional reactions when given subcutaneously. It is possible by this method to determine, first, the borderland of reaction and no reaction to tuberculin, which will be the degree of tolerance of the patient to tuberculin; second, the dose of tuberculin necessary to give the grade of reaction desired. In beginning treatment, we first determine the minimal cutaneous reaction point of the patient as described. This is obtained in the majority of cases with 12.5 per cent. O. T., using 0.01 c.cm. of the solution; i. e., the minimal reaction is obtained by the absorption from the skin of 1.25 mg. of O. T. From the ratios above mentioned 1/15 of the amount 1.25 mg., or 83/1000 mg. O. T., will produce both local and constitutional reactions; 1/30, or 4/1000 mg., local without constitutional; 1/50, or 25/1000 mg., no local or constitutional reaction. One-fiftieth, or 25/1000 mg., is therefore an amount of tuberculin which when given subcutaneously is just below the quantity necessary to produce local reaction at the site of injection in cases giving a minimal cutaneous reaction to 12.5 per cent. O. T. by the method described.

The Relative Importance of the Human and Bovine Types of Tubercle Bacilli in Human Tuberculosis at Different Periods of Life

DR. WILLIAM H. PARK, New York: Seventeen fatal cases of generalized tuberculosis in infants, in which the meninges were not involved, have been investigated. Twelve of these were due to the human type and five to the bovine type. Neither in age, in clinical symptoms, nor in pathologic findings, were any distinctive differences noticed which could be referred to the type of tubercle bacilli producing the infection. Ten cases of tuberculous meningitis were examined and all were due to the human type. Only two cases of abdominal tuberculosis were examined, and both were due to the bovine type. Twenty-nine cases of tuberculosis of the lymph glands of the neck were examined. Nine of these were of the bovine type, and the remainder of the human. There was no difference in the character of the cases, except that the majority of the bovine infections were in the younger children. In five cases of tuberculosis of the bones and joints all were due to the human type. There were examined four patients with pulmonary tuberculosis under 1 year of age, seven between 6 and 14 years, and 200 adults. In all the disease was due to the bacillus of human type. These results coincide so closely with the reports of other large series in different parts of the world that it looks as if there were little probability of further studies greatly changing our present ideas of the relative properties of human and bovine infection. Bovine infection is certainly a considerable factor in the tuberculosis of children. In adults, on the other hand, it is almost negligible.

Discussion on Tuberculosis

DR. WILLIAM H. WELCH, Baltimore: Dr. Park's contribution is an extremely important one, especially the study of such a large number of cases of pulmonary tuberculosis without finding in a single instance the bovine bacillus, so far as that goes confirming Koch's contention at the last International Congress on Tuberculosis, at which he challenged any one to bring forward an authentic case of pulmonary phthisis due to the bovine tubercle.

DR. S. SOLIS COHEN, Philadelphia: It is important to be able to determine the minimal dose of tuberculin with which it is safe to begin treatment. My only experience has been in cases of laryngeal tuberculosis. For many years I was afraid to use it, but my brother obtained excellent results from the very first in the treatment of tuberculosis of the larynx, and recently I have been using it in those cases in which tuberculosis of the larynx coexisted with pulmonary tuberculosis, and always with good results, although not always with recovery.

DR. A. JACOBI, New York: Some time ago, Dr. v. Pirquet told me that of late he had been using the undiluted old tuberculin, and since then I have done the same. The method is very simple. I use only a small part of a drop. A single drop will suffice for twenty or twenty-five vaccinations. I scarify the skin, put the tuberculin on with a glass rod and leave it there a few minutes, having a control. I frequently use eosin simply to have something that may act as an irritant. A shield is put on, and I see the patient in three days, and almost invariably I have found the reaction positive in cases in which a general examination showed tuberculosis. I have never seen any untoward results.

(To be continued)

NEW HAMPSHIRE MEDICAL ASSOCIATION

Annual Meeting, held at Concord, May 12-14, 1909

The President, DR. JOHN M. GILE, Hanover, in the Chair

Reports of secretary, treasurer, councilors and chairmen of committees were read and placed on file to be printed in annual report.

The matter of expert medical testimony was exhaustively discussed, and it was voted that the chair appoint a committee of conference to meet with a like committee from the New Hampshire Bar Association to draft some bill on expert testimony which might be made a law at the next session of the legislature. The following were appointed. Dr. F. A. Stillings, Concord; Dr. E. O. Crossman, Lisbon; Dr. G. C. Wilkins, Manchester; Dr. J. J. Cobb, Berlin; Dr. John M. Gile, Hanover.

The next legislative committee was instructed to make strenuous effort to have the law governing the practice of medicine in New Hampshire modified at the next session of the legislature in some important particulars.

The secretary was directed to advise Senator Gallinger that the New Hampshire Medical Society was opposed to any restrictions on animal experiments, such as was contemplated in the District of Columbia.

The house approved vasectomy as reported from Indiana, and voted to oppose the licensing of so-called optometrists.

The officers elected for the ensuing year were named in THE JOURNAL, May 29, page 1768.

President's Address: Problems Confronting the Society

DR. JOHN M. GILE, Hanover: In an organization like this two general methods of procedure are open: One along the line of a loose association with little machinery and little paternalism in its methods; the other a radically different principle suggested by the whole trend of affairs toward industrial and social organization. The latter means carefully constituted committees and delegated authority, and most diligent and painstaking work on the part of those officers.

Expert medical testimony, in its present status, has been more discussed and more villified, derided and condemned than it would seem possible for any system to be and live, but it is still with us and without prospect of change. The bill introduced in the New York Assembly in March, 1909, probably will not pass. I suggest that a committee of conference be appointed to meet with a like committee from the New Hampshire Bar Association for friendly consideration of the subject. The American Urological Association is directing its attention to a propaganda for the sterilization by vasectomy of criminals, idiots and other defective classes, and is requesting the New Hampshire Medical Society to pass resolutions favorable to the legalization of such procedure. The frequency with which the defective reproduces his own or a still more degenerate type is appalling, and this fact is not appreciated even by the members of the medical profession unless special study is given to the subject. That famous family whose genealogy is recorded under the name of "The Jukes," showed among 700 descendants 55 per cent. of criminals and paupers, and in the course of a century cost the State of New York over a million and a quarter of dollars. Segregation has been the approved method of applying a check to this state of affairs, but it is expensive to the state and unsatisfactory to the subjects so controlled. Indiana legalized vasectomy two years ago for criminals and defectives and 800 individuals have thus been sterilized. Oregon has enacted a similar law.

The matter of suits against physicians for malpractice is always one of disturbing interest to the profession, and is one that has loomed especially large in New Hampshire in the past year. An organization, within the society, for medical defense appears to be giving highly satisfactory results in the states where it is in operation. This would tend to rule out those cases that are nothing more or less than blackmail and that are brought in the hope that the physician will pay a small sum rather than be put to the inconvenience and expense of trial. The law which regulates the granting of license to practice in New Hampshire has several features which make it cumbersome and not without friction in its working. The existence of three examining boards seems to be a needlessly awkward and cumbersome arrangement. One board with representatives from each of the so-called schools of medicine—eclectic, homeopathic and regular—should be simpler, better co-ordinated and more efficient in action. The present law apparently does not distinctly prohibit any one from practicing medicine so long as he does not attach the title of doctor or M.D. to his name. Complaints have come from the cities that unlicensed individuals are advertising and practicing medicine under the title of "Professor" and that the authorities refuse to prosecute under the existing law. In an effort to improve the law the legislative committee presented to the last legislature a bill dealing with those particulars in what seemed to be a more satisfactory manner, but opposition developed from various and somewhat unexpected quarters. The only purpose which the committee had was simply to make a more consistent law; hence when the opposition developed it was thought wise to let it die in the committee. New Hampshire, in common with nearly every other state in the Union, has in recent years been through a definite campaign for the advancement of medical education. The result is the remarkable change in the medical course of study of to-day as compared with that of 15 years ago. In connection with this the fact is to be noted of a marked decrease in the last five years of the number of students matriculated in the medical schools of the country. In 1904 there were 28,142 matriculants and 5,747 graduates and in 1908 there were 22,602 matriculants and 4,741 graduates, a decrease of 5,540 students and 1,007 graduates.

Surgery of the Stomach

Dr. John B. Deaver, Philadelphia, discussed in detail the symptomatology and diagnosis of diseases of the stomach and summed up the situation in gastric surgery as follows: 1. The treatment of ulcer surgically is highly satisfactory, but not perfect in its results. 2. With less danger in operating because of our present improved technic excision or resection of gastric ulcer will probably become much more frequent. 3. Chronic dilatation of the stomach is curable by gastroenterostomy, whether the pylorus be patulous or not. 4. Gastroptosis does not respond to surgical treatment. 5. Neuroses of the stomach are fit for surgical treatment only when their cause, being without the stomach, can be removed. Operations on the stomach for functional gastric conditions are always failures. 6. Carcinoma of the stomach in many instances would be curable if diagnosis would be made early; until our diagnosis is improved our results will continue to be poor. Unless we explore earlier and more often and not consider the responsibility of such procedure a grave one, we can not hope to progress in the surgery of malignant growths of the stomach.

DISCUSSION

DR. M. E. KEAN, Manchester: The problem would seem to be to evolve some plan of early diagnosis, so that the patient could be operated on while there was a good prospect of cure.

DR. F. B. LUND, Boston: Within the last two years the subject of gastroenterostomy has developed immensely. I have tried hard to get some help from laboratory men. Many patients have been sent to me by physicians as early cases of stomach disease, and I felt a careful laboratory examination ought to be made. Two young working men came to me supposedly with stomach disease. Both looked the least bit anemic and had gastric pain. One was found to have cancer, which could not be operated on by gastroenterostomy, as there was not room. The other had cancer also. The surgeon has to depend on the common sense of the doctor who has seen the patient and knows him. Acute ulcers in young men ought to have treatment. A great many will be cured without operation if the medical treatment is kept up, but it will not be and the case will eventually come to the surgeon. Medical treatment is difficult and has to be long continued. The majority of ulcers are cured by gastroenterostomy; it is a simpler proceeding than resection. I believe with Dr. Deaver that gastritis should not be operated on.

(*To be continued*)

ILLINOIS STATE MEDICAL SOCIETY

Fifty-Ninth Annual Meeting, Held at Quincy, May 18-20, 1909

(Continued from page 1882)

President's Address: The Relation of the Medical Profession to the Secular Press

DR. J. W. PETTIT, Ottawa: No agency is more potent for good or evil than the secular press. By secular press I mean more particularly the newspaper, which each day reaches fully 90 per cent. of the reading public. By far the larger part of the public, especially busy people, get about all their general information from the newspaper. It is the only printed source of information for fully one-half of the reading public. Any advertisement devoid of exaggeration, either expressed or implied, should be regarded as legitimate. It is not even this kind of advertising for whose recognition I plead, but that larger and more useful publicity which is miscalled advertising. Publicity may be defined as exploiting any medical fact which is of benefit to the public. Incidentally, more or less advantage will accrue to the publicity given to meritorious work done by the physician. This, however, is not advertising, but the legitimate reward for good work. The physician who furthers his own interest by doing good professional work is entitled to the reward which such service brings. This may be by scientific research, active society work, promotion of the public health, anything and everything that promotes legitimate medicine and the public welfare, and even though the motive may be fundamentally a selfish one, it should be encouraged. Many things are connected with our professional work of which the public has a right to know. There are also many to knowledge of which they have no right, and it would be a violation of professional confidence

to make public. The code is sufficiently clear on this point. I have observed that many medical men who advocate a narrow interpretation of the code are engaged in advertising by devious methods if we accept the doctrine that all publicity is advertising. The writing of useless books, the establishment of medical colleges for the primary purpose of securing the professorships, reading papers of doubtful value before medical societies as an excuse for the wholesale distribution of reprints, are some of the methods employed to evade the spirit of our code of ethics. This mad attempt to deceive and be deceived is responsible in a large measure for the establishment of so-called medical colleges, many of which are simply diploma mills, an evil which is not only a disgrace, but an absolute menace to our profession. One of the best means of mitigating these evils is to permit and encourage legitimate publicity along more rational and less harmful lines.

When Shall We Operate for Uterine Fibromata and Myomata?

DR. S. C. STREMMEL, Macomb: My assistant (Dr. Holmes) and I have operated in 61 cases, every one of which was complicated; four tumors had undergone carcinomatous degeneration, 1 sarcomatous, making 5 patients with malignant degeneration. The sarcomatous patient died 3 months after operation from recurrence, and one carcinomatous patient died in 6 months from recurrence. In the majority of our cases hemorrhage was a prominent symptom and was responsible for getting the patient's consent for operation. Ten tumors were large and produced pressure symptoms; 5 were complicated with ovarian tumors; 4 were multiple fibromata in which we were able to remove the growth without removing the uterus. One was a pedunculated fibromyoma weighing 19½ pounds; ascites and edema of the lower extremities and abdominal wall were extreme. A myomectomy was done; she recovered, and 2 years later gave birth to a child. We have never lost a patient from operation, but we have had some narrow escapes on account of undertaking cases away beyond the borderline of safety. I am convinced that we should advise operation for these tumors of the uterus as soon as the diagnosis is made, even before degenerative changes or complications occur. The only exceptions I make are those patients that any surgeon of average ability would refuse to operate on because of old age or a physical condition contraindicating operation.

DISCUSSION.

DR. WILLIAM CUTHBERTSON, Chicago: Many women present themselves for examination for other pelvic troubles and in the course of that examination we discover the presence of fibroid tumors. Unless these fibroids are sufficiently large to cause pain, displacement of the uterus, or profuse hemorrhages, I do not think we are called on to operate for their removal as soon as the diagnosis is made. Every practitioner of experience has seen cases of comparatively young women whose uteri have been studded with small fibroid tumors, yet they did not cause sufficient pain, displacement of the uterus, with accompanying constipation, disturbances of urination, to warrant operation; consequently I think we are safe in letting these young women go on and keep them under close observation.

DR. BERTHA VAN HOOSEN, Chicago: I have never been able to understand why a tumor of the uterus should be looked on any differently from a tumor of the breast. If a woman presents herself to me with a tumor of the breast, I would urge her to have it removed at once, and have a section of it examined microscopically, with a view of determining whether it is malignant or not. By this means we can get in the very early stages nearly all cases of carcinoma of the uterus. We know it does not do any harm to remove a small tumor from the breast; it is a simple operation; we know exactly what we are doing, and I believe the conditions in the pelvis are exactly the same.

SYMPOSIUM ON GASTRIC AND DUODENAL ULCER

Diagnosis of Gastric and Duodenal Ulcers

DR. CHRISTOPHER GRAHAM, Rochester, Minn.: In the majority of peptic ulcers the type of symptom is fairly suggestive, and a careful development of the history will lead closely not only to a good diagnosis, but often to a degree of precision in ulcer location. The period of chronicity varies from 1 to 20 years, often running from 30 to 45. The average number of years in this series is between 12 and 13. The second characteristic feature is the periodicity of attacks. Are chronicity and periodicity peculiar to ulcer of the stomach? We find in gall-bladder disease, appendiceal colics and many general diseases this chronicity and this periodicity. Gallstone and appendiceal attacks come irregularly, increasing in severity as the attacks multiply. Pain is the most constant symptom of gastric ulcer. It is the time of pain or other symptoms; it is the regularity of pain and other symptoms; and it is the means by which the pain or other symptoms are relieved, that give the differential characteristics to gastric ulcer. Perforation is not infrequent and is acute or chronic. Chronic perforation causes adhesions to neighboring organs, reduces the motility of the stomach, which in turn decreases motor power and increases secretion. This increased secretion adds to the obstruction by causing pyloric spasm, while the spasm again heightens acid secretion, increases the pain, and threatens deeper ulceration. Hemorrhage which calls for radical interference is not so frequent as was formerly thought. As a complication, I would lay most stress on malignant degeneration, not because it calls for surgical relief oftener than does obstruction, malformation or perforation, but because it is the fruitful soil for cancer implantation. When cancer is once implanted, the cure has been proved most difficult, partly no doubt because the diagnosis is slow. In the differential diagnosis, three of the many conditions that call for attention are cancer, chronic appendicitis and gallstones. Until broader methods are evolved we must too often, in both gallstones and ulcer, rest satisfied with a surgical diagnosis.

Medical Treatment of Gastric and Duodenal Ulcer

DR. B. W. SIPPY, Chicago, discussed the medical treatment of gastric and duodenal ulcers, detailing a plan of treatment which, if rigidly carried out, will bring about good results.

Treatment of Non-Perforating Ulcers

DR. A. J. OCHSNER, Chicago: The surgical treatment of gastric and duodenal ulcer must depend on the accomplishment of three results in order to be practically successful: (1) It must remove all irritation from the ulcer in order to permit healing; (2) it must leave conditions so that the original cause of the ulcer is permanently eliminated; (3) it must leave a fairly satisfactory digestive apparatus after the patient has recovered from the operation. The irritation in persistent ulcer being due to the accumulation of severely acid gastric juice passing over the denuded surface, this irritation can be relieved by drainage at the lowest point of the stomach by gastroenterostomy, which at once prevents the accumulation of quantities of acid gastric fluid in the stomach and provides an outlet so that the fluid does not have to pass over this raw surface. Fortunately, the same procedure accomplishes the second and third conditions desired, provided the patient is carefully and persistently controlled in regard to taking non-irritating diet after the operation for the remainder of her life. In old suspicious-looking ulcers only will it be necessary to excise the pylorus, doing Rodman's operation, in order to prevent the implantation of carcinoma on the ulcer base. In ulcer accompanying hourglass stomach, excision and a plastic are frequently indicated. In perforative ulcer closure of the perforation should be done, and if obstruction follows subsequent gastroenterostomy is indicated.

Surgical Treatment of Perforating Gastric and Duodenal Ulcer

DR. J. E. ALLABEN, Rockford: I here report a case of perforating gastric ulcer which was operated on, with recovery of the patient, and draw the following conclusions: (1) Ulcers of the stomach and duodenum are much more common than is usually supposed; (2) the life of an individual with ulcer is perpetually jeopardized by the possibility of perforation; (3) the treatment of perforating gastric or duodenal ulcer is limited to surgical procedure; (4) the prevention of perforation means the early diagnosis of ulcer in the preperforative stage, and its treatment by excision or gastrojejunostomy.

Discussion on Ulcer

DR. JOHN B. DEAVER, Philadelphia: There is no class of affections that I approach with a greater degree of feeling of responsibility than stomach cases. I have felt for some time that too much was done on the stomach, and I have no reason to think otherwise. I am included among the number who have done too much. The more stomach surgery I do, the more I realize and appreciate the responsibility that we surgeons must have the courage to close the abdomen if we do not find a positive lesion, but in the past I have not done so. In the future I hope to do better. The avoidance of operation in acute hemorrhage is very important. Few patients die of acute hemorrhage of the stomach if treated medically; many die if treated surgically. That has been my experience.

DR. FRANK BILLINGS, Chicago: Many years ago surgeons were not so liberal in their expressions in the treatment of chronic gastric ulcers as they are to-day. I have expressed on previous occasions strong convictions that a certain class of cases should be treated surgically. I think we owe a great deal to Dr. Sippy, who read the paper on the medical treatment of gastric and duodenal ulcers, and who has worked out a systematic scheme for the treatment of these cases which is just as technical as the surgical treatment of ulcer, and which must be carried out in every detail in order to obtain satisfactory results. I believe that if medical men carry out in the future medical treatment with the same accuracy and technical skill as the surgeon does his work, there will not be this controversy we have had in the past, and it will grow less in the future regarding the cases which are medical and those which may become surgical. That is true, for in the past the majority of us have been remiss in the medical treatment of ulcer of the stomach.

DR. ARTHUR DEAN BEVAN, Chicago: These papers are the best examples of borderline work we have had for a long time. They show that it is absolutely essential, in order to achieve the best results, to have the diagnosis made and the medical treatment go hand in hand with the surgical handling of these cases. I feel I am fortunate in being associated with three or four medical men where we handle these cases by combining our efforts or by doing team work. This getting together of the internists and surgeons is the only way in which this subject can be satisfactorily worked out. I have gone through the same experience as most surgeons in the last five or eight years of having operated on a certain number of cases which were medical, and not surgical. On the other hand, I must say, in properly selected cases there is hardly any group of surgical cases so satisfactory as those which pertain to the stomach. Take a patient with obstruction of the pylorus; whose normal weight was 180 pounds, but he has declined in weight to 120 pounds; whose life is miserable; whose disposition is absolutely changed because of his continual suffering—that patient within six months after a simple gastroenterostomy regains his normal weight and returns to a condition in which he can enjoy life. The results from this operation on these cases are wonderfully satisfactory.

Gallstone Disease

DR. JOHN B. DEAVER, Philadelphia: The ideal treatment of any disease, or disease process, involves, first, temporary relief of the patient, and, second, the prevention of a recurrence by removal of the primary cause. That there are some cases of gallstone disease unsuitable for radical treatment none would be so rash as to deny. The very old, those who have other grave organic diseases, as of the heart, lungs, or kidneys, can not be considered favorable cases for any kind of operative interference. We can not differentiate a stone-forming biliary catarrh from any other mild biliary catarrh, and so it is necessary to wait until stones are actually formed before we have a basis for operation. The time of election for operative interference is when we have to deal with gallstones entirely within the gall bladder and when complications have not yet set in. When we find gallstones, they must be removed and their cause, if possible, done away with. The first requirement we can only fulfill by a most careful exploration of the viscus and its ducts in every instance. In the hand of so competent an operator as Hans Kehr, calculi were overlooked in 2 per cent. of all cases. With surgeons less experienced in this line of work it is natural to suppose that this percentage is still larger and that the stones left behind account for many a case considered as one of recurrence after operation. With proper technic, however, there should be exceedingly few cases in which calculi are left behind. The removal of the cause involves an attempt to overcome the infection giving rise to the stone-forming catarrh. I hold that in every instance we should take for granted the persistence of such a catarrh, in spite of bacteriologic evidence to the contrary, and should drain in every case. It is not sufficient to provide for an open gall bladder only that drainage which it receives through the biliary tract. Who would think of allowing a possibly infected kidney to drain itself only through the ureter? Ideal cholecystotomy has fallen into well-merited oblivion. I believe that without thorough drainage we may have a temporarily curative operation for gallstones, but its effect as a prophylactic against their future formation is entirely lost. Perhaps the point of technic on which operators are still most divided is the removal of the gall bladder. I do not agree with those who hold that it should be removed whenever it is possible to do so. Not only is the mortality of cholecystectomy somewhat higher than that of cholecystostomy, but there are certain other disadvantages connected with the entire removal of the gall bladder. Adequate drainage of the bile tract is more difficult to secure and is less prolonged. If the stone-forming catarrh still exists, this may give rise to the formation at a later period of calculi within the duct, where they are apt to cause more difficulty; and, lastly, we are removing without a suitable substitute a bile reservoir which probably has some function which we do not as yet understand. The more complex details of the technic of gallstone surgery do not belong to a brief summary such as this. After all, the surgeon of to-day should be able to see that while technical detail is of great importance, correct diagnosis and understanding of underlying processes are still far more essential. In gallstone disease further progress will depend not on advances in operating only, but on earlier recognition and understanding of the disease process as a whole.

Poisoning from Bismuth-Subnitrate-Vaselin Paste

DR. V. C. DAVID and DR. J. R. KAUFFMAN, Chicago: After reporting five such cases, we draw the following conclusions: 1. Poisoning from bismuth-subnitrate-vaselin paste is more common than we had supposed. Since the report of these cases, in an examination of about 25 orthopedic cases in the Cook County Hospital in which bismuth-vaselin paste had been injected into tuberculous sinuses more than once, we found that in 6 patients there was more or less blue pigmentation of the gums. In one of the patients extreme blue pigmentation was present on the gums, the lips and the cheeks were without subjective symptoms. From this we have reason to believe that pigmentation of the gums is an early sign of bismuth intoxication, and should be taken as a signal to discontinue the injection of the paste for a time. 2. In the reported cases, 4 of the 5 patients received 6 ounces or less at the first injection, and 10 ounces or less *in toto*. 3. One fatal case occurred after the use of less than one ounce of paste. 4. Toxic symptoms developed after the first injection in from 10 days to 6 weeks, both extremes being the fatal cases. 5. The use of the *x*-ray apparently is not a factor which might influence poisoning because some of these patients were not skiagraphed after the paste was used. 6. There are acute and chronic cases of bismuth poisoning, the former being fatal, with general symptoms, and the latter tending to slow recovery with practically only local manifestations, but the onset of both is very much the same. 7. So far, no case of pure nitrate poisoning following the use of the bismuth-subnitrate paste is on record, and though there is but one case in which the nitrate played a part in the poisoning, it seems as though that danger should be avoided by the use of bismuth carbonate. 8. Impurities in the bismuth-subnitrate are not factors in the poisoning, because, metallic bismuth has been found in the local pigmented areas, and in two well-defined cases the analysis of the bismuth showed no considerable amount of impurities.

(*To be continued*)

Medicolegal

Liability for Preventable Fits

The Supreme Judicial Court of Massachusetts says, in the personal injury case of Dooley vs. Boston Elevated Railway Co., that while it might be conceded that the evidence of the experts as to the power of the plaintiff by a general course of life to lessen the spells she had, or to control them in any degree, was, taken as a whole, not very illuminating, yet it would have warranted a finding that by a proper and reasonable use of such will power as the plaintiff had she could lessen these spells by improving her general tone, and, further, that if she resisted the impulse and did not "let go of her feelings" she could control them to a certain extent.

In this state of the evidence it was asked that the jury be instructed that if they found there was such physical injury as to permit the recovery of damages for mental suffering or disease also, then in determining the damages to be awarded for mental suffering or disease the jury must eliminate from consideration such of the plaintiff's symptoms or demonstrations, if any, as could have been prevented by the exercise of such self-control as the plaintiff was capable of at the time of such symptoms or demonstrations. Also that if the jury believed that the plaintiff had had fits, spasms, or spells, since the accident, and believed that the coming on of such fits, spasms, or spells was always or sometimes under the plaintiff's control in the sense that she could, by the exercise of the will power or self-control of which she was capable, have always or sometimes prevented them from happening, had she wished to do so, then so far as that was the case she could not recover for fits, spasms, or spells so preventable, or for their consequences. These instructions were applicable to a possible view of the evidence that the jury might take, and their general accuracy could not be successfully questioned.

But, instead of such instruction being given, the jury were told that the question might be whether the fits, spells or spasms, as they had been called, were voluntary or involuntary, and that if the jury said that they were entirely under the plaintiff's own control, and that she need not have one unless she saw fit to, and she had it because she wished to, then these should not be taken into account so far as she could avoid them, whether they caused suffering or not. This, under the circumstances, was error.

The requested instructions had reference not so much to the spells which the plaintiff had "because she wished to," but to such "as could have been prevented by the exercise of self-control," and there is a material difference between the two classes. The first more aptly describes a fit to which the active will of the victim contributes, the second a fit where there is no active exercise of the will to prevent it. The first implies an active exercise of the will, the second simply a sluggish inaction, a negligent quiescence of the will. The instruction given fairly covered the law as to the first class, but it utterly ignored the law as to the second class.

It was further to be observed that this omission was material on what might be regarded as a tender spot in the case; a spot where the jury would be likely to sympathize keenly with the plaintiff. On all the evidence the plaintiff was in a condition likely to appeal to a jury. A young woman, healthy both in body and in mind, and cheerful in temperament, had become an invalid and morose, and she was seeking to hold the defendant responsible for this change. Under these circumstances it was the right of the defendant to have defined with precision the legal limits of its responsibility.

Insanity and Testamentary Capacity

The Supreme Court Commissioners of Nebraska say, in the Ayers' will case, that it might be admitted that the testator, pathologically considered, was insane for many years; but the real question was: Was his mind so diseased that his mental freedom was perverted and his understanding destroyed so that he was incapable of knowing and comprehending in a general way the natural objects of his bounty, the nature and extent of his estate, and the distribution he wished to make of it?

The medical definition of insanity as given by Dr. Hammond in his work on Diseases of the Nervous System (page 332), is a manifestation of disease of the brain characterized by a general or partial derangement of one or more of the faculties of the mind, in which, while consciousness is not abolished, mental freedom is perverted, weakened or destroyed.

The older view regarded the human mind as a single indivisible potency not comprising distinct functions, and consequently that any impairment thereof must be absolute, and not partial. But modern medical science recognizes, as shown by the definition above quoted, that there may be a partial derangement of one or more of the faculties of the mind, leaving others practically unimpaired, and hence arises what is called partial insanity.

This court has laid down the rule that where the insanity is not general, the question to be determined is whether the subject was the victim of such delusions as controlled his actions and rendered him insensible to the ties of blood and kindred. McClary vs. Stull, 44 Neb. 175. A very full discussion of the degree of soundness of mind required for the making of a valid will and a full citation of authorities will be found in the case of Perkins vs. Perkins, 116 Iowa, 253.

The law makes no distinction between mental incapacity whether congenital or caused by age, sickness or disease, and it therefore follows that partial insanity does not necessarily disqualify a testator from making a valid will. Some courts have gone so far as to say that, when there is nothing unreasonable on the face of the will by one habitually insane, it will be presumed to have been made in a lucid interval. Kingsbury vs. Whittaker, 32 La. Ann. 1055.

Wherefore, the Supreme Court of Nebraska holds that where it appears that a testator had been on various occasions temporarily confined in a hospital for the insane, but in the intervals was competent to transact with judgment and discretion his ordinary business, and had sufficient strength of mind and memory to know and comprehend and retain in his mind those who were or naturally should have been the objects of his bounty, the nature and extent of his estate and the distribution he wished to make of it, and that during such an interval he executed in due form his last will and testament making a reasonable distribution of his estate, a judgment probating said will should be sustained.

"Defect of Reason" and Criminal Liability

The Court of Appeals of New York says, in the case of People vs. Carlin, that under the statute of that state, which embodies the English rule laid down in the celebrated McNaghten Case, 1 C. & K. 134, a person is not excused from criminal liability as an insane person except on proof that at the time of committing the alleged criminal act he was laboring under a defect of reason, which, furthermore, must have been such as to render him either (1) ignorant of the nature and quality of the act he was doing, or (2) ignorant that the act was wrong. This is the only test of responsibility known to the law of the state of New York. The phrase "defect of reason" in the statute means disease of the mind, and a person who has committed an act otherwise unquestionably criminal may not be relieved from the consequences of that act where insanity is relied on as the sole defense, unless at the time of the commission of the act he was suffering from some disease of the mind. Material neglect has never yet been recognized as an excuse for matricide, and no matter how firmly the defendant may have been convinced that it was not wrong for him to kill his mother, his convictions to that effect could avail nothing as a defense unless they were the outcome of mental derangement.

Admissibility in Evidence of Disclosures to Physicians in Homicide Cases

The Court of Appeals of New York says that in the homicide case of People vs. Hill the defendant was examined by an expert for the people, who, before making the examination, told him that he had been requested by the district attorney to

make an examination of him and to ask him questions regarding himself and the accident. He then asked him to be free and frank with him, stating that he would use him right, and that he need not tell him anything that would incriminate himself so far as the deed was concerned. At the trial the defendant's counsel objected to the witness testifying as to any statement made by the defendant on the ground that the witness had promised the prisoner that he would treat him all right. It was claimed that this was an offer by which the defendant was induced to make statements to him on the understanding that he would not testify against him. The court's conclusion with reference thereto, however, is that such was not the fair or reasonable interpretation of the statement. There was no disclosure of the details of the homicide called out by the physician nor given by the defendant which was at all in controversy. The physician's examination of him, so far as questions were concerned, pertained to his memory, history, his family relations, diseases, and the extent to which he had indulged in drinking intoxicants. He then subjected him to a physicial examination for the purpose of determining, as far as possible, the presence of any disease. The court finds nothing in this on which error could be predicated. But the court holds that the declarations of the defendant made to another physician as to his recollections of transactions after the alleged homicide, but long before the time of the interview with the physician, were not competent evidence.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

May 29

1 *The Etiology of Pain. E. G. Janeway, New York.
2 Hay Fever and Other Rhinologic Causes of Asthma. W. W. Carter, New York.
3 Myelogenous Leukemia. C. W. Cutler, New York.
4 The Future of the Alcohol Problem. T. D. Crothers, Hartford, Conn.
5 *Administration of Anesthetics. H. J. Boldt, New York.

1. **Etiology of Pain.**—Janeway discusses pains of various kinds and says that we should be cautious in labeling a severe pain as hysterical. He cites cases in which pain supposedly hysterical proved to be due to some serious condition. Pain due to toxic influences may baffle us unless we make diligent inquiry of the patient and his friends. Sciatica should be carefully scrutinized, since a condition that seems simple may be caused by pressure of a malignant growth. Pain in the abdomen may come from the kidney instead of the appendix, and it requires careful search to know whether pain comes from the kidney, gall bladder, or appendix. Pain or taxia may simulate some of these conditions. Pain in angina pectoris is severe and characteristic, and when combined with increased blood pressure and ashy lips it should not be mistaken.

5. Abstracted in THE JOURNAL, May 15, 1909, p. 1614.

Boston Medical and Surgical Journal

May 27

6 Early Career of Sydenham, with Remarks on the Men and Medicine of His Time. C. G. Cumston, Boston.
7 *Cancer of the Cervix Complicating Pregnancy. J. T. Williams, Boston.
8 *Classification of the Malarial Plasmodia. C. F. Craig, U. S. Army.

7. **Cancer of the Cervix.**—As the result of an examination of the records of the Boston Lying-in Hospital, Williams draws the following conclusions:

1. Cancer of the cervix does not prevent conception, and in a large percentage of cases antedates the pregnancy.
2. Cancer of the cervix, as a rule, grows with great rapidity during pregnancy and the puerperium.
3. While the prognosis of cancer of the cervix is more grave during pregnancy, it is not hopeless.
4. When an operable cancer of the cervix is discovered during pregnancy, no matter at what period, immediate operation is indicated.
5. Up to the present time statistics favor the Wertheim operation, preceded by Cesarean section if the child is viable.
6. In inoperable cancer with a living child at term, conservative Cesarean section is the method of choice. If the child is dead, or premature, a subpubic delivery will give the best result.

8. **Classification of Malarial Plasmodia.**—Craig discusses this subject and proposes the following classification:

Division. *Protozoa.*
Class. *Sporozoa.*
Order. *Hemosporidia.*
Genus. *Plasmodium.*
Species:

1. *Plasmodium malariæ*, Marchia and Celli. Quartan malarial plasmodium.
2. *Plasmodium vivax*, Grassi and Feletti. Tertian malarial plasmodium.
3. *Plasmodium falciparum*, Blanchard. Estivoautumnal plasmodium, tertian type.

Sub-species:

4. *Plasmodium falciparum quotidianum*, Craig, 1909. The quotidian estivoautumnal plasmodium.

New York Medical Journal

May 29

9 Idiopathic Dilatation of the Esophagus. M. Einhorn, New York.
10 *Theories and Problems of Heredity. J. Wright, New York.
11 Indications for Operations on the Stomach. J. J. Gilbridge, Philadelphia.
12 Dacryocystitis. A. J. Herzig, New York.
13 *Digital Enucleation of the Faucial Tonsil. A. M. MacWhinnie, Seattle, Wash.
14 Otitic Significance of Tonsillectomy with Reference to Digital Enucleation. H. B. Blackwell, New York.
15 Deficient Oxidation and its Relation to the Etiology, Pathology, and Treatment of Nephritis (continued). N. E. Ditman and W. H. Welker, New York.

10. **Theories and Problems of Heredity.**—In this article Wright discusses cancer as a problem of heredity in its bearing on the problems of histology. He pays special attention to mouse cancer. He says that if cancer research in animals has thrown an expected light on cancer in man, it has thrown considerable light, it seems to him, on the problems of heredity, and certainly an unexpected light on histology and on embryology, that recapitulation of heredity. Hitherto the view has prevailed that the stroma of an epithelial cancer is derived from the connective tissue surrounding it. Wright thinks that in the future this can hardly be maintained in its entirety, in view of the rising flood of testimony to some of which he had referred. All his experience goes to support the view that the type of tumor in the human individual remains practically the same, so far as structure is concerned, throughout the life of the host, and while he can not but believe that epithelial cells may furnish stroma and connective tissue cells, a benign tumor does not change to a malignant one, nor does the latter change its type except very rarely. That it does so occasionally in the one human host perhaps can not be denied, but he has never seen any proof of it in practice, nor has he ever seen any adduced literature satisfactorily establishing the fact. Malignancy is not an expression which belongs to objective diagnosis. It refers to the host, not to the cancer guest. Final as the testimony of the microscope is so frequently thought to be, it is by no means a court of last resort. It can never be sufficiently urged that the biologic activities evidenced in the clinical history and the biologic condition noted in the structure must be correlated in forming an opinion as to the fate of the patient. Clinical experience combined with histologic observations has not demonstrated the fact that "the virulence of a tumor is the measure of its histologic structure" (Apolant and Ehrlich) with sufficient accuracy to make the opinion of the histologist as to the degree of malignancy in any given specimen of any great value.

13. **Enucleation of the Faucial Tonsil.**—MacWhinnie praises digital enucleation of the faucial tonsils on the following grounds: (1) Rapidity of the operation; (2) absolute nonrecurrence if removed in its capsule; (3) minimum amount of hemorrhage and subsequent anemia; (4) the importance of starting on the outside of the capsule; (5) ease of performance, so amputation should never be thought of, even as a palliative measure. He describes the procedure as follows: The point of importance that should be remembered is to begin the procedure outside of the capsule, in the posterior inferior portion of the sinus, working up to the supratonsillar

fossa. The finger is then brought to the posterior inferior portion of the sinus, working up to the supratonsillar fossa. The finger is then brought to the original starting point and the same procedure is carried out, posterior to the anterior pillar, into the supratonsillar fossa to meet the first dissection; the finger is then carried to the original starting point, and by working forward, the thumb being on the anterior surface of the tonsil the enucleation is completed, the gland coming away in its capsule. At this point the operator should not try to pull the tonsil, for if he does some of the superior constrictor may come as well and hemorrhage result. When starting the procedure, the operator should begin on the outside of the capsule; there is almost no danger of getting inside of it, for if he did it is manifest that the work would be incomplete.

Medical Fortnightly, St. Louis

May 25

16 *Wandering Spleen in the Pelvis. F. Hinchey, St. Louis.
17 Immunity. L. H. Warner, Brooklyn, N. Y.
18 Chronic Appendicitis. C. A. Boice, Washington, Ia.
19 The Invalid's Vacation. G. H. Tarson, Mount Clemens, Mich.

16. **Wandering Spleen.**—Hinchey reports a case with the following features of special interest: During the years 1905 and 1906 when the patient was passing through the severe nervous manifestations that were ascribed to the menopause, she presented the clinical symptoms common to splanchnoptosis. Prior to that time and since the menopause these symptoms were never observed. There is the same general ptosis now as then, with the lower border of the stomach below the navel, the right kidney readily palpable opposite the navel and freely movable, decensus of the liver and transverse colon, great laxity of the abdominal parietes, depression of the epigastrium and marked bulging of the hypogastrium; yet despite these conditions there are none of the usual symptoms commonly ascribed to splanchnoptosis. Bearing this in mind, Hinchey believes that the removal of the diseased ovary *per vaginam*, with thorough repair of the pelvic floor, will relieve her of all her symptoms. The patient's marked ability to cope with the tubercle bacillus is also worthy of comment.

Virginia Medical Semi-Monthly, Richmond

May 21

20 Value of the von Pirquet Test for Tuberculosis. J. S. Davis, Charlottesville.
21 Etiology of Renal Sclerosis, Chronic Interstitial Nephritis. R. T. Styll, Newport News.
22 Sheet of Directions Given the Patient After a Tonsil Operation, including Treatment of Postoperative Hemorrhage. E. Pynchon, Chicago.
23 Alcohol. B. C. Keister, Roanoke.
24 Sacral Hematoma: Spina Bifida Converted into Hematoma During Breech Presentation; The Tumor Presenting. E. T. Brady, Abington.
25 Medical Organization and Its Benefits. V. V. Anderson, Lynchburg.

Journal Experimental Medicine, New York

May

26 *Atypical Forms of Tubercle Bacilli Isolated from the Human Tissues in Cases of Primary Cervical Adenitis. C. W. Duval, Montreal.
27 *Experimental Study of Influence of Kidney Extracts and of the Serum of Animals with Renal Lesions on the Blood Pressure. R. M. Pearce, New York.
28 *Pneumothorax and Posture. C. A. Elsberg, New York.
29 *Effects of Roentgen Irradiation on Changes in the Cell Content of Blood and Lymph Induced by Injections of Pilocarpin. R. L. Dixon, Ann Arbor, Mich.
30 *Influence of Addition of Adrenalin to Solutions of Sodium Chlorid and Calcium Chlorid on Production of Urine, Ascites, and Intestinal Fluid. M. S. Fleischer and L. Loeb, Philadelphia.
31 *Influence of Myocarditic Lesions on Production of Ascites, Intestinal Fluid and Urine in Animals Infused with Solutions of Sodium Chlorid and Calcium Chlorid. M. Fleischer and L. Loeb, Philadelphia.
32 *Intracranial Pressure. J. A. E. Eyster, M. T. Burrows and C. R. Essick, Baltimore.

26. **Atypical Tubercle Bacilli.**—Duval reports the study of four cultures of tubercle bacilli recovered from cases of a peculiar primary cervical adenitis in man, three of which died of acute general miliary tuberculosis. One of these cultures is of the human, another of the bovine type, while two are intermediate or atypical. One of the latter is of special interest. The case from which it was obtained ran a rapid course; enormous numbers of bacilli were found in the tissues and they were highly virulent for rabbits and guinea-pigs, easily cultivated, and resistant to unfavorable conditions. Because of these characteristics and also because it produced lesions in chickens, it is regarded as an avian type of bacillus. Duval does not believe that the morphologic characters of the bacilli of different cultures afford much aid in differentiation, because these characteristics may vary, depending on the kind and reaction of the media.

27. **Kidney Extracts and Blood Pressure.**—Pearce finds that extracts of the kidneys of various animals may increase or diminish blood pressure, depending on the animal injected. Such substances have not the constant effect on all animals that extracts of the adrenal gland have. Extracts of kidneys the seat of different forms of nephritis have the same effect as extracts of normal kidneys.

28. **Pneumothorax and Posture.**—Elsberg finds that when a dog lies on its belly the heart falls toward the anterior chest wall, and supports the anterior septum between the two pleural cavities. This septum is weaker than the posterior septum, and is apt to rupture with the violent respiratory movements that take place when the pleura is opened if the dog is on its back. The danger of open pneumothorax is greatly lessened when the animal is in the prone position.

29. **Effect of X-Rays on Increase of Leucocytes.**—Injection of pilocarpin hydrochlorate into the muscles of a dog causes a definite increase of leucocytes in the circulation. So far as the mononuclear cells are concerned, this increase is interrupted by the action of *x*-rays, while the polymorphonuclears are relatively slightly reduced in number by this action. Dixon believes that the greater decrease of mononuclears by the use of *x*-rays perhaps is explainable by the fact that the parent cells of the polymorphonuclear leucocytes are not so accessible to the rays because of their situation in the interior of bone.

30 and 31. **Edema.**—Calcium chlorid, adrenalin and myocardial lesions each in a specific way effect elimination of fluid by the kidneys, by the mucosa of the small intestine, and by the lining of the peritoneal cavity. Hence Loeb and Fleischer conclude that the conditions influencing the elimination of fluids by these three surfaces must be different in each case and peculiar to the cells lining the surfaces.

32. **Intracranial Pressure.**—Increase of blood pressure resulting from increase of intracranial pressure over the blood pressure, takes place in the dog owing to constriction of the vessels of the intestines, kidney and limbs. In the brain the increase of intracranial pressure causes complete anemia. When the intracranial pressure is not so greatly increased, some of the larger connections at the base of the brain are more or less well injected. In the dog, the internal maxillary artery plays an important part in the cerebral circulation, and because of its position within the cranial cavity it is unaffected except by extreme degrees of intracranial pressure.

Providence Medical Journal

May

33 Medical Supervision of Schools and its Relation to the General Practitioner. A. J. Akers, Providence.
34 *Early Maternity. R. H. Carver, Taunton, Mass.
35 Old Age and its Consequences. F. N. Brown, Providence.
36 Lumbar Punctures. A. H. Ruggles, Providence.

34. **Early Maternity.**—Carver brings forward documentary evidence in support of a case of maternity twenty-four days before the girl was 10 years old, the father being 15 years. The son born when last heard of was in jail, having previously served a term in the house of correction.

American Journal of Public Hygiene, Boston

February

37 *Simple Procedure for Disinfection of Passenger Coaches and to Kill Vermin in Them. J. A. Amyot, Toronto, Canada.
38 *Measures to Promote the Health of School Children. M. L. Price, Baltimore.
39 *Id. S. G. Dixon, Philadelphia.
40 Health Problems of Provinces. M. M. Seymour, Regina, Saskatchewan, Canada.
41 Health Problems in Alberta. D. G. Revell, Edmonton, Alberta, Canada.

42 *Sociology of the Middle and Far West. C. F. Fagan, Victoria, B. C.
43 Social and Public Health Development of the Northwestern States and of the Western Central Provinces of Canada. P. H. Bryce, Bracondale, Ontario, Canada.
44 The Rat as a Factor in Disease. N. K. Foster, Sacramento, Calif.
45 Yellow Fever in Mexico. E. Liceaga, Mexico City, Mex.
46 Relation of State or Provincial Boards to Municipal Boards and Local Health Officers. C. A. Hodgetts, Toronto, Canada.
47 *Diphtheria Observed in Guadalajara, Mexico, from Jan. 1, 1904, until June 30, 1908, from a Hygienic Standpoint. M. M. Lopez, Mexico City.
48 *Tuberculosis and Poverty. E. T. Lies, Minneapolis.
49 Result of the Preventive Treatment of Rabies and Its Present State. D. Lopez, Mexico City.
50 *Best Method of Vaccinating with Humanized Lymph. F. de P. Bernaldez, Mexico City.
51 Determination of the Typhoid Bacillus in Infected Water and Milk. D. D. Jackson and T. W. Melia, Brooklyn, N. Y.
52 Method for Determining the Number of Dust Particles in Air. C. E. A. Winslow, Boston.
53 Report of Committee on Technical Progress. B. R. Rickards, Columbus, O.
54 Standard Methods for Bacterial Diagnosis of Typhoid Fever. F. F. Wesbrook, Minneapolis.
55 *Working Method for Use in Diagnosis of Rabies. A. W. Williams, New York.
56 Standard Methods for the Bacteriologic Diagnosis of Tuberculosis. M. P. Ravenel, Philadelphia.
57 Methods for the Bacterial Diagnosis of Glanders. W. L. Beebe, St. Cloud, Minn.
58 Standard Methods for the Bacterial Diagnosis of Diphtheria. B. R. Rickards, Columbus, O.
59 *The Mortality from Industrial Diseases. L. W. Hutchcroft, Madison, Wis.
60 Need of Greater Uniformity and Accuracy in Statistical Expression. F. S. Crum, Newark, N. J.
61 Notification and Morbidity Returns in Cuba, with Special Reference to Yellow Fever and other Major Infectious Diseases. C. J. Finley, Havana, Cuba.
62 Protection of Public Milk Supplies from Specimens Contaminated with Pus Organisms. J. O. Jordan, Boston.
63 *The Survival of *B. typhosus* in Milk when used in Ordinary Breakfast-Table Coffee and Tea. H. W. Hill.
64 Work of the State Inspectors of Health and its Relation to the Work of Local Boards of Health. E. Washburn, Taunton, Mass.
65 Practice of Exposing Food Stuffs to the Street Dust and Its Effect on the Public Health. F. H. Slack, Boston.
66 Personal Hygiene. P. G. Styles, Boston.
67 Veterinary Hygiene. W. L. Beebe, St. Cloud, Minn.

37. **Disinfection of Passenger Coaches.**—Amyot describes the construction of an inexpensive structure, which is practically a disinfecting house, wherein formaldehyd or potassium cyanid disinfection of one or more railroad or other cars can be carried on.

38, 39, 50, 55. Abstracted in THE JOURNAL, Sept. 12, 1908, pp. 939, 941, 942.

42. **Sociology of the West.**—Fagan contrasts social conditions in the west with those in the east and in Europe. He regrets the too great independence of restraint among children. While the spirit of independence is good, too great freedom of action at an age when neither discretion nor judgment is developed is not good. He deplores the uncontrolled shaping of their own educational courses by juveniles, their attending or leaving school at will and selection of a calling, often in direct opposition to the parental wish. The teaching in hygiene is poor, he asserts, the teachers largely unlearned in science, and the text-books used a farce.

47. **Diphtheria in Guadalajara.**—Lopez describes an epidemic of diphtheria in an elevated city, which led him to the conclusion that the contagion of diphtheria is very inferior to that of measles, smallpox or scarlet fever.

48. **Tuberculosis and Poverty.**—Lies discusses the mutual interaction of tuberculosis and poverty, and says that what we need in this country is an adaptation of the German system of industrial insurance, which would have the effect, as it has in Germany, of encouraging a man to undertake treatment for tuberculosis early, when he is still in a curable stage, instead of waiting because of the expense involved, until he goes over the incurable line.

59. **Industrial Diseases.**—Hutchcroft points out that the old mortality grouping by occupations is, nowadays, apt to be misleading. It is evident, from the division of labor which has come about in most of our industries, that the work done by one set of laborers in an industry might be very unhealthful and cause some special form of occupational disease, while the employés in the remainder of the industry might not be subject to any destructive agencies. It is the particular branch of the industry which develops an occupational disease with which we are concerned, although for purposes of comparison it would seem desirable to study the industry as a whole.

63. **The Bacillus Typhosus in Tea and Coffee Milk.**—Hill's experiments indicate that the epidemiologist, in listing those exposed to infection from a given milk supply, should not eliminate those who drink milk only in coffee or tea; for he has demonstrated that *Bacillus typhosus* survived in a mixture of milk with hot coffee or tea, and could be recovered from it twenty-four hours after the mixture was first made, except when the initial temperature of the mixture was above 68 C. Coffee or tea can not be used as a drink by most people at a temperature above 50 C.

Interstate Medical Journal, St. Louis

May

68 *Rectal Anesthesia. N. B. Carson, St. Louis.
69 Diagnosis and Treatment of Ectopic Gestation. E. E. Montgomery, Philadelphia.
70 Points of Interest in Tuberculosis of the Larynx. C. Graef, New York.
71 *Circumscribed Serous Spinal Meningitis. M. A. Bliss, St. Louis.
72 Guillotin. F. J. Lutz, St. Louis.

68. **Rectal Anesthesia.**—Carson reviews the history of this procedure of which he thinks the alleged dangers more imaginary than real, basing his opinion on an examination of the recorded fatal cases. He reviews the physiology and has been surprised in his series of cases by the rapidity of the absorption. The advantage, besides the removal of the anesthetist from the field of operation, is lessened fatality, owing to the lung being free to eliminate ether as fast as it is absorbed, so that it can safely be used when there is involvement of the lungs. Carson believes this method to be especially applicable in goiter operations. He uses Sutton's simple apparatus. He describes the technic and reports 16 cases in 2 of which death occurred from surgical shock and in one from medullary pressure in a brain case. He is convinced that the application of this method in properly prepared cases—he insists strongly on the method of preparation—has many advantages over the inhalation method.

71. **Circumscribed Serous Spinal Meningitis.**—Bliss discusses the etiology of this condition, and says that his own case gives a very clear history of traumatic causation, but whatever may be ultimately determined as to the most frequent causative factors, it is well to remember that the symptoms may come on insidiously and slowly. A history of intercostal neuralgia, of mild or severe type, is not unusual if the seat of greatest compression is in the dorsal region; in the lumbar region, lumbago, anterior crural or other nerve group neuralgias, may occur primarily, to be followed later by a rather even anesthesia and analgesia, associated with cramping of muscles and increased deep reflexes, and by bladder and rectal signs. An upper limit of the lesion can usually be determined.

Journal of New Mexico Medical Society, Albuquerque

May

73 Diagnosis and Surgical Treatment of the More Common Gall-Bladder Diseases. R. L. Bradley, Roswell.
74 Scarlet Fever. W. G. Hope, Albuquerque.
75 Erysipelas. C. M. Yater, Roswell.
76 Ileus. J. H. Wroth, Albuquerque.
77 Anesthesia. C. F. Montgomery, Lake Arthur.

Iowa Medical Journal, Des Moines

May

78 Methods of Diagnosis in Surgical Diseases of the Kidney Accompanied by Pyuria. L. W. Bremerman, Chicago.
79 Indications for Operating in Acute Otitis Media. L. W. Dean, Iowa City.
80 Psychologic Therapeutics and Some of its Limits. C. E. Huband, Ottumwa.
81 History of Keokuk Medical College and Evolutions in Medical Education During That Time. G. F. Jenkins, Keokuk.

Laryngoscope, St. Louis

May

82 Résumé of Some Work on Infection Through the Tonsillar Crypts. J. Wright, New York.
83 *Tonsillectomy. S. Yankauer, New York.
84 Vincent's Angina. H. Arrowsmith, Brooklyn.
85 Removal of Laryngeal Tumors in Left Lateral Position. R. H Johnston, Baltimore.

86 Ranula. J. C. Beck, Chicago.
87 Chronic Interstitial Otitis, or Chronic Middle-Ear Catarrh and Otosclerosis. W. S. Bryant, New York.
88 Edema of Larynx Following an Infection of the Lower Pharynx. M. D. Lederman, New York.
89 Teratoma of the Tonsil. R. D. Jewett, Winston-Salem, N. C.
90 Sinus Skiagrams in the Erect Position. S. Lange, Cincinnati.
91 Perichondritis of Auricle Treated Successfully by Injection of Fifty per cent. Alcohol. H. Gifford, Omaha, Nebr.

83. **Tonsillectomy.**—Yankauer gives anatomic reasons for a novel method of local anesthesia in tonsillectomy. He injects with cocain the trunks of the middle and posterior palatine nerves as they leave the bony opening. The entire region involved in the operation of tonsillectomy can be thus anesthetized.

Medical Herald, St. Louis

May

92 Roentgen-Ray Diagnosis in Pulmonary Tuberculosis and Gastric Carcinoma and Ulcer. E. H. Skinner, Kansas City, Mo.
93 The DeForest Cautery Apparatus. H. J. Boldt, New York.
94 Influences in the Foundation of Modern Medicine. C. A. Potter, St. Joseph.

Journal Indiana State Medical Association, Fort Wayne

May

95 "Rubbering in Europe." L. F. Schmauss, Alexandria.
96 *Pathology of Exophthalmic Goiter. J. A. McDonald, Indianapolis.
97 Outlines of the Evolution of Psychopathies. I. O. Allen, Centerville.
98 Race Suicide from the Physician's Viewpoint. W. W. Wadsworth, Muncie.
99 Modern Syphilis. F. H. Jett, Terre Haute.
100 Sketches of the Medical History of Indiana (continued). G. W. H. Kemper, Muncie.

96. **Exophthalmic Goiter.**—McDonald concludes, from a review of the subject, that the symptoms of exophthalmic goiter are due to the excessive activity of a thyroid gland, the seat of certain characteristic changes indistinguishable from hypertrophy. He asks: Why should the process of hypertrophic compensation, elsewhere a beneficent and reparative function, here so far overstep its authority as to produce a symptom-complex which is certainly pathologic? And: What is the ultimate cause of this overstimulation? The overcompensation he considers to be in response to the continued action of certain toxins or stimulation bodies. In regard to the second question, he refers to reported cases confirming the suggestion of McCallum, that the underlying cause is an infection of some type—influenza, septic infection, scarlatina, diphtheria, cerebrospinal meningitis, measles, smallpox, purulent peritonitis or tuberculosis. In a case that he has had under observation for some months, the patient has a preceding history of long and severe typhoid fever. Little accurate work in exophthalmic goiter therapy can be hoped for until we have more conclusive information regarding the physiology of the gland.

Journal of Medical Research, Boston

April

101 Quantitative Relations of Antigen, Amboceptor, and Complement in the Estimation of Hemolysis. S. S. Kneass and J. S. Evans, Philadelphia.
102 *Acute Pancreatitis without Necrosis or Bacterial Invasion. C. Frothingham, Boston.
103 Studies of the Physiologic Leucocyte Content of Cow's Milk. B. H. Stone and L. P. Sprague, Burlington, Vt.
104 *Staphylococcus Infection Treated with Leucocyte Extract. P. H. Hiss and H. Zinsser, New York.
105 *Localized Anaphylactic Intoxication in Children Following the Repeated Injection of Antitoxin. W. P. Lucas and F. P. Gay, Boston.
106 Malignant Tumors in Mice, with Report of a Spontaneous Adenocarcinoma in a House Mouse (*Mus Musculus*). E. F. McCampbell, Chicago.
107 *Pathologic Cytology of Surgical Shock. Alterations Occurring in the Purkinje Cells of the Dog's Cerebellum. D. H. Dolley, Chapel Hill, N. C., and G. W. Crile, Cleveland, O.
108 Rhabdomyosarcoma of the Uterus. A. R. Robertson, Boston.
109 Effect of Dilution on the Flocculation of Colloids. B. H. Buxton and A. H. Rahè, New York.
110 *Study of Specificity and Sensitization by the Cutaneous Test with Human and Bovine Tuberculin. F. T. Lord, Boston.
111 *Quantitative Modification of the von Pirquet Tuberculin Reaction and its Value in Diagnosis and Prognosis. W. C. White and D. A. L. Graham, Pittsburg.
112 *An Agar-Gelatin Medium. C. E. North, New York.
113 *The Behavior of the Gonococcus in Carbohydrate Media. T. Watabiki, Tokyo, Japan.

102. **Acute Pancreatitis.**—Frothingham concludes that, under certain undetermined conditions, polymorphonuclear leucocytes immigrate into the pancreas in sufficient numbers to cause considerable lesions; this occurs more frequently in acute infectious diseases than in chronic diseases; as yet the lesions have not been correlated with clinical symptoms.

104. **Leucocyte Extract in Staphylococcus Infection.**—Hiss and Zinsser have no hesitation in concluding that "marked improvement in, and cure of, localized staphylococcus infection may be obtained by careful and systematic treatment with leucocyte extract." The extracts were obtained from rabbit leucocytes, treated with distilled water, and administered by subcutaneous injection.

105. **Intoxication After Antitoxin Injection.**—Lucas and Gay describe an immediate local edema and infiltration with tenderness, followed in untreated cases by necrosis, in persons reinjected with diphtheria antitoxin. The percentage showing this reaction increased with the number of injections at short intervals after a primary injection. The reaction corresponds to Arthus' phenomenon in rabbits.

107. **Surgical Shock.**—Dolley describes definite alterations in the Purkinje cells of the cerebellum of dogs in which surgical shock was produced by manipulation of the abdominal contents. The changes followed a definite course and occurred in animals in which the possible influence of anemia was eliminated by transfusion of blood from normal dogs.

110. **Specificity and Sensitization.**—Lord finds that the cutaneous tuberculin test in man fails to give evidence of a specific and differential quality in human and bovine tuberculin. This result in man corresponds to the results obtained with differential tuberculin tests in animals, and emphasizes the very intimate relationship, so far as susceptibility to reaction is concerned, between the human and bovine types of tubercle bacilli.

111. **Modification of von Pirquet Tuberculin Reaction.**—White and Graham express their conviction that cases of tuberculosis, except advanced ones, not reacting to the cutaneous tuberculin test, using 0.02 cm. of 100 per cent. Koch's old tuberculin, must be considered as free from tuberculosis or as having very inactive lesions.

112. **Agar-Gelatin Medium.**—Agar-gelatin medium described by North is made as follows (1 liter): Extract of one pound of lean beef or veal, extracted with 500 c.c. of water for eighteen hours; 10 grams of agar; 20 grams of gold label gelatin; 20 grams of dried peptone (Witte's); 5 grams of sodium chlorid; water to make one liter. The reaction is adjusted to the neutral point in the usual way, using phenolphthalein as indicator. The medium is favorable for the growth of pneumococcus, meningococcus, gonococcus and other bacteria ordinarily kept on hand. It can be used at 37 C., as well as at lower temperatures, and is recommended as a convenient routine medium.

113. **The Gonococcus.**—Watabiki finds that on carbohydrate media gonococcus ferments only mannite, dextrose, dextrin and levulose, indicating an absence of the varieties usually found among other bacteria. He also failed to obtain indications of the existence of varieties by means of certain serum reactions.

Old Dominion Journal of Medicine and Surgery, Richmond

May

114 Claudius Galen. B. M. Randolph, Washington, D. C.
115 Dysentery Due to Protozoa. W. Allan, Charlotte, N. C.
116 Mental Responsibility in Acute and Chronic Intoxication with Alcohol and Other Drugs. A. Gordon, Philadelphia.
117 Arteriosclerosis and Ocular Lesions. W. H. Wilmer, Washington, D. C.
118 Rectus Incision for Reduction of Strangulated Hernia, with Report of Case of Strangulated Hernia in the Sac of an Undescended Testicle. C. R. Robins, Richmond.
119 Example of Eventration. J. L. Hankins, Century, W. Va.
120 Example of Acephaly. A. J. Osborne, Lawrenceville, Va.
121 Rather Rare Complication in Gunshot Wound. S. R. Jordan, Republican Grove, Va.

Long Island Medical Journal, Brooklyn

May

122 Rational Treatment of Typhoid. E. E. Cornwall, Brooklyn.
123 Climate in Treatment of Pulmonary Tuberculosis. H. Greeley, Brooklyn.
124 Finer Points of Ether Therapy as Applied in Anesthetics. W. C. Woolsey, Brooklyn.
125 Secondary Anemias. R. A. Bate, Louisville, Ky.
126 Surgical Treatment of Internal Hydrocephalus. R. S. Fowler, Brooklyn.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

May 15

1 Acute Rheumatism, its Allies and its Counterfeits. F. de H. Hall.
2 Diagnosis and Treatment of Morbid Conditions of the Pleura. T. R. Bradshaw.
3 *Bacillus Pyocyaneus Pyemia Successfully Treated by Vaccine. E. H. Groves.
4 Tuberculous Meningitis without Tubercles. F. W. Higgs.
5 Outbreak of Meat Poisoning at Limerick. E. J. McWeeney.
6 Condition of the Blood in Experimental Rickets. L. Findlay.
7 *Treatment of Sleeping Sickness. A. Balfour.
8 Injury to the Vessels in Dislocation of the Shoulder. W. H. Battle.
9 Surgical Considerations Connected with the Anatomy of the Maxillary Sinus. A. S. Underwood.

3. **Bacillus Pyocyaneus Pyemia.**—Groves reports the case of a boy, of 10, who was operated on in August, 1908, for lameness due to fixation of the left hip. In November, 1907, he had had two abscesses, one in the right groin, the other on the inner side of the left thigh, the latter healing very slowly. The operation in August, 1908, was followed immediately by what proved to be a severe pyemia, from which a culture of the *Bacillus pyocyaneus* was isolated. A vaccine was prepared, and first 40, then 60 millions, increased later to 100 millions, of bacilli were injected, at intervals grading from a week to a fortnight. From the date of the second injection the boy's condition has rapidly improved. A peculiar feature in this case was that the patient exhibited three different varieties of pathologic dislocation of his joints: 1. Dislocation by destruction of bony surfaces; illustrated by the tuberculous left hip. 2. Dislocation by destruction of ligaments and the traction of muscles; illustrated by the right thumb. 3. Dislocation by distention of the capsule; illustrated by the right hip. Groves summarizes as follows the lessons of this case:

1. The danger of trusting to an "aseptic" system of surgery when dealing with the region of the groin. He now always uses 1 in 2,000 biniodid of mercury as lotion in these cases when asepsis is doubtful.
2. The absolute importance of an exact bacteriologic diagnosis in every case of suppuration.
3. The great gravity of *Bacillus pyocyaneus* infection.
4. The potency of vaccinal treatment of this infection.

7. **Sleeping Sickness.**—Balfour is led by a perusal of McKenzie and Martin's treatment in cerebrospinal meningitis—that of introducing locally, by spinal puncture a highly immune serum obtained from the blood of patients who have recently recovered, or, in acute cases, of injecting the patient's own serum—to suggest that a somewhat similar method of sero-therapy might be tried in cases of trypanosomiasis and sleeping sickness. He discusses the theory only as a suggestion, but thinks that anything likely to prove beneficial should be tried in cases of sleeping sickness.

Lancet, London

May 15

10 *Spread of Tuberculosis—Heredity or Infection? J. G. Emanuel.
11 *X-Ray Treatment of Ringworm of the Scalp. J. M. H. Macleod.
12 *Histology of Rheumatic Endocarditis. C. Coombs.
13 *Simplified Method of X-Ray Application for Cure of Ringworm of the Scalp; Kienböck's Method. H. G. Adamson.
14 Lithokelyphos. J. B. Hall.
15 Sporadic Outbreak of Trichinosis in Devonshire. J. D. Harris.
16 Calcium Lactate in Treatment of Epilepsy. A. R. Littlejohn.
17 Traumatic Separation of the Upper Mandible. W. Bligh.
18 Pulmonary Tuberculosis Terminating with Acute Streptococcal Meningitis. E. H. R. Harries.
19 Hepato-Omental Bands Constricting the Stomach. G. A. Hawkins-Ambler.
20 Plea for Use of Antidiphtheritic Serum in the Laryngitis of Measles. A. A. Warden.

10. **Heredity or Infection in Tuberculosis.**—The stress laid by insurance companies on a death from tuberculosis in the family of the applicant, tends to perpetuate in the public mind the belief in the heredity of tuberculosis. Emanuel does not deny that both heredity and infection may play their respective rôles in the spread of consumption, but tuberculosis is so prevalent that any hereditary tendency to it falls into comparative insignificance. From the practical point of view, it is the various paths of infection that are of importance. He discusses the two doctrines and points out that, while the evidence in favor of infection is very strong, the scientific proof of heredity is well nigh impossible. It would require the records of many families in which several children of tuberculous parents had succumbed to tuberculosis in spite of early removal from their parents and early separation from one another, without possibility of exposure to other sources of infection. The results of experiments in guinea-pigs and of observations in orphan asylums where children are separated from an infected environment, give no support to the hereditary doctrine. He discusses infection through marriage, and through the dwelling, infection of fellow-laborers, through nursing, infection of health resorts, the influence of age and sex, bacillary transmission, latent tuberculosis, and hereditary predisposition, and concludes by stating that heredity can not explain (1) cases of phthisis occurring in the same family and obviously spreading from one member to another; (2) cases of phthisis conveyed from husband to wife and *vice versa;* (3) the prevalence of phthisis among the overcrowded poor; (4) the greater prevalence of phthisis among in-door as opposed to out-door employés; (5) cases of phthisis occurring among individuals brought into close contact by their daily avocations, in the home, office, workshop or factory; (6) the prevalence of phthisis among those engaged in tending consumptives; (7) the appearance of phthisis in places now used as health resorts, previously immune from the disease; (8) the mortality from tuberculosis gradually diminishing from infancy to 10 to 15 years and subsequently rising to a maximum at 45 to 55 years.

11. **X-Ray in Ringworm.**—Macleod's experience since 1905 has led him to the belief that:

1. The *x*-ray treatment of ringworm by the single dosage method, with the dosage regulated by the pastille, is practically safe and harmless.
2. It is a method of treatment of such delicacy that, even in the hands of an experienced operator, an accident such as an over-exposure might happen; but such accidents should be of such extreme rarity as not to discredit a mode of treatment possessing such obvious advantages.
3. Severe dermatitis followed by permanant baldness is the result of an over-exposure or is due to some accident, such as the exposing of an area the resistance of which has been lowered by the previous application of strong irritants before the inflammation has entirely subsided, or from overlapping.
4. Permanent baldness or delayed hair growth without marked dermatitis is the result of over-exposure, but it might, in rare instances, be due to some idiosyncrasy on the part of the patient, in the same way as the occurrence of alopecia areata after ringworm.
5. Macleod has been unable to obtain any definite evidence of injury to the brain by this method of treatment from his own cases, from the literature on the subject, or from anyone with experience of this treatment whom he has asked, and the experiments which he has done in this connection strongly negative the possibility.

12. **Rheumatic Endocarditis.**—Coombs states that the reaction to rheumatic invasion of the endocardium is characterized by the formation of large fibroblasts in groups and zones, which, so far as his experience goes, are constant in rheumatic, but absent from other, forms of endocarditis. The valvular inflammation of rheumatic carditis is set up, he asserts, by micro-organisms carried to the endocardium by the coronary arteries and their branches.

13. **X-Ray in Ringworm of the Scalp.**—Adamson describes the details of a simplified technic, the essential points in which are irradiation at right angles to the direction of the irradiation of adjacent areas, and to aim not at a point in the center of the vertex, of the lower occiput, or of the sides of the scalp, but toward the outer margin of these areas, so that half the dose goes on to the scalp and half on to the shield protecting the face and neck. If these precautions are taken there is no risk of over-exposure at the overlapping margins of the rayed areas. In practice the dosage works out so nicely, that every part receives an equal amount and depilation is total and complete, without anywhere a sign of over or under exposure. In theory, according to the well-known laws that the quantity of rays received at any point exposed varies (1) inversely with the square of the distance from the source; and (2) directly with the size of the angle of incidence, the dose received by any part of the scalp is found to be with mathematical accuracy, one pastille dose.

Medical Press and Circular, London

May 12

21 Alcoholic Insanity. J. O. Donelan.
22 Rupture of the Uterus During Labor. T. B. Grimsdale.
23 *Ought Tea, Coffee, and Chocolate to be Forbidden in Uricemia? A. Martinet.
24 Disinfection of Houses in India. S. C. Hormusjee.

23. **Coffee, Tea, etc., in Uricemia.**—Martinet concludes that:

1. Alkaloidal beverages, especially tea, coffee and chocolate, should be forbidden for uricemia subjects, especially those whose urine spontaneously precipitates uric acid.

2. Nevertheless, the action of coffee and chocolate appears to be less injurious to the organism than that of meat and the legumens, the latter appearing to predominate; for although uricemia manifestations are specially frequent in meat-eating races or tea drinkers (Anglo-Saxons), they seem to be rather rare in people who are vegetarians, even though they drink tea and coffee (Japanese, Hindus, Arabs, etc.).

In short, tea, coffee and chocolate may be allowed in moderation when the food is principally vegetarian and hypopurinic; but they should be strictly forbidden when the diet comprises much meat, which is the case in most instances of "excretors of uric acid."

Clinical Journal, London

May 12

25 Hemianesthesia of the Dissociated Form. W. P. Herringham.
26 Fistula and Diseases of the Rectum. L. Mummery.
27 *Pernicious Anemia (concluded). H. French.

27. **Pernicious Anemia.**—French concludes his article, begun in the last issue. The points he has sought to bring out are: 1. Slight evening pyrexia is seldom absent in pernicious anemia cases that are decidedly ill. 2. Pigmentation within the month, of precisely similar character to that seen in Addison's disease, may occur in pernicious anemia cases treated with arsenic. 3. The spleen is to be felt in about one-third of the cases, and is really enlarged. 4. The nerve symptoms are not at all uncommon in pernicious anemia. 5. The color index of the blood, though typically higher than when an advanced stage of the disease has been reached, is not always or continually high especially during a period of improvement in the patient's condition, when it may be actually low. Lastly, pernicious anemia, as we know it, is very possibly only a late and almost incurable stage of a disease that it is to be hoped will some day be recognizable early enough to be cured.

Intercolonial Medical Journal of Australasia, Melbourne

March

28 *Syphilis. H. B. Allen.
29 *Frequency and Intensity of Congenital Syphilitic Infection in Children. P. B. Bennie.
30 Syphilis and Nervous Disease. A. Davidson.
31 Treatment of Syphilis. W. McMurray.
32 The Larynx and Early Diagnosis of Phthisis. W. K. Hughes.
33 Idem. S. W. Ferguson.
34 Tuberculous Glands Treated by X-Rays. T. G. Beckett.
35 Radium Treatment. H. Lawrence.

28. **Syphilis.**—Allen says that the time-honored diagnostics of syphilis leave much to be desired. The great marks of syphilis are in the arterial wall, to which the spirochetes soon betake themselves in experimental syphilis. Allen sets forth the following conclusions concerning syphilis and the circulatory system: First, aortic aneurism, in the great majority of cases, is due to syphilis, and aneurism is very prevalent in Victoria, and very markedly prevalent among women, so that in 1906 there were 31 deaths recorded from aneurism in women, as against 57 deaths in men. Second, aortic regurgitation is mainly due to syphilis, either through chronic endocarditis or atheroma, or a combination of these conditions. Third, a large proportion of cases of mitral obstruction must be attributed to syphilis. Fourth, syphilis frequently induces thickening of the fibrous rings at the bases of the valves. Fifth, subject to unimportant exceptions progressive chronic myocarditis is a syphilitic affection. Sixth, syphilis is a potent cause of coronary atheroma, and thus contributes to the gravity of many cases of angina, or leads to myomalacia and rupture of the heart; while syphilitic arteritis at the mouths of the coronary arteries often causes cardiac ischemia, claudication and syncope. Apart from dust disease and chronic tubercle, syphilis is the great cause of interstitial pneumonia. The multiple fibroses of serous membranes often ascribed to tubercle are, in Allen's experience, more frequently due to syphilis. Surgeons have to bear in mind syphilitic arteritis and thrombosis, not only in senile gangrene, but in the necroses of young people, in Raynaud's disease, and superior mesenteric thrombosis. A chronic syphilitic inflammation is often the forerunner of a true malignant growth. The obstetrician needs to know the signs of syphilis in the umbilical cord and placenta. In the cord, the blood vessel walls are thickened and sclerosed, and in the fresh section white fibrillar tissue spreads from the thickened vessels into Wharton's jelly. The two arteries are constantly affected. In the placenta there may be opaque white patches in the surface membrane, with subjacent fibrosis. Gummata are sometimes found. The mother is always infected, though she may show no outward sign of the disease. The gynecologist must reckon with gummata in the cervix and upper vagina, and with slower forms of ulceration and fibrosis, chronic metritis, salpingitis and mastitis, in all of which syphilis may play a part. Allen is convinced that the main mortality in children from slight causes is due to inherited syphilis, in which precocious atheroma often plays a part. He suggests that the enormous prevalence of fibrosis of organs and sclerosis of arteries in later life, is to be attributed, at least partly, to the evolution of early fibrotic changes. A stringent marriage law for syphilities, administered with adequate firmness, is urged.

29. **Congenital Syphilis in Children.**—Bennie discusses this question at some length and concludes that if either parent has ever had syphilis, no matter how well treated, there is a syphilitic taint in the child subsequently born. Fully 10 per cent. of the children are infected, and this small percentage affords material for more than half the pediatric work and includes nearly half of the fatal cases. Speaking generally, the chances of death before puberty are nearly seven times greater for the syphilitic than for the non-syphilitic. Infected children should, if possible, be treated in all illnesses for the syphilitic factor. A course of antisyphilitic treatment should precede operation on congenital syphilities.

Annales de Médecine et Chirurgie Infantiles, Paris

April 15, XIII, No. 8, pp. 253-288

36 *Milk of One Cow versus Mixed Milk for Infant Feeding. (Lait individuel ou lait de mélange.) E. Gaujoux.
37 *Prophylaxis and Physiotherapy of Tuberculosis in Children. H. Keller.

36. **Milk of One Cow Versus Mixed Milk in Infant Feeding.**—Gaujoux thinks that there is no advantage in using the milk of one cow rather than the mixed milk unless that one cow is kept apart from the others under specially favorable conditions and constant supervision of its food, physical condition and physiologic functions, after eliminating tuberculosis with the tuberculin test.

37. **Prophylaxis of Tuberculosis in Children.**—Keller declares that country air and hygienic surroundings are required by the children of the poor in winter even more than in summer, as the children are housed more and the hours of sunlight are fewer. Well-located and well-conducted sanatoria for children, both of well-to-do and of poor families, would prove invaluable to promote hygiene, discipline and order and teach the children how to ward off disease. Such a sanatorium is the best school for both the tuberculous and the predisposed. He emphasizes the fact that prophylaxis of tuberculosis in the young will reduce its frequency in adults, and that measures to eradicate alcoholism will do away with its most prolific source.

Archives Générales de Médecine, Paris

April, CC, No. 4, pp. 193-256

38 Accidental Subcutaneous Emphysema in Two Cases of Valve Pneumothorax a Compensating Process. (Rôle compensateur de l'emphysème sous-cutané accidentel, dans deux cas de pneumothorax à soupape; obligation de ne pas compter sur cet effet favorable.) M. Perrin.
39 *Perforation of the Esophagus. M. Cléret.
40 *Electric Sterilization of the Air. A. Sartory.

39. **Perforation of the Esophagus.**—In the case described, a cancer in the esophagus was unsuspected until perforation occurred. The eccentric rather than the concentric development of the lesion prevented disturbances in the passage of the food into the stomach. The patient was a man of 45 with a history of early syphilis and excessive use of liquor, but robust

until recently, when symptoms of dyspepsia disturbed him for a time, recurring twice. After an interval of three months of freedom from symptoms, the pain in the right hypochondrium returned, with anorexia and rapid emaciation, and the perforation in the esophagus revealed the malignant nature of the trouble.

40. **Electric Sterilization of the Air.**—Sartory's apparatus draws in the cold air, heats and brings every molecule in contact with the electricity, passing the air on and out through a kind of chimney at the top of the apparatus. Air thus treated is rapidly sterilized, three hours being sufficient to sterilize completely the air in a room containing 150 cubic meters of air; from 50,000 the number of bacteria drops to 5,000 in one hour and frequently to zero by the end of the second hour. He relates experiences with this sterilizer in the crowded waiting room of a free public dispensary and in the smaller consultation rooms, the tests showing entire success. Sterilization is complete much sooner in comparison in the smaller rooms.

Presse Médicale, Paris

May 5, XVII, No. 36, pp. 313-320

41 *Chancroidal Processes at the Anus and Anal Canal. (L'anite chancrelleuse.) P. Ravaut and B. Bord.

May 8, No. 37, pp. 321-336

42 *Buried Protheses in Treatment of Fractures. (Technique et indications de la prothèse perdue dans le traitement des fractures.) A. Lambotte.
43 Specific Antibodies in the Serum in Various Streptococcus Lesions. M. R. Castex.
44 Scoliosis from Malformation of the Vertebræ. P. Desfosses.

41. **Chancroidal Ulceration of the Anus.**—Ravaut and Bord insist that the anal region should be regarded as entirely distinct from the rectum in its response to infection, as well as from the anatomic and histologic standpoints. The gonococcus locates by preference on the rectal mucosa, sparing the anus, while chancroidal infection remains limited to the anal region, causing a special process, the characteristics of which they describe in detail, with four illustrations. Examination is so painful that they use spinal anesthesia for the purpose, injecting merely one drop and a half of a 50 per cent. solution of cocain hydrochlorate. This solution does not diffuse, but remains limited, inducing analgesia only in the genito-perineal-anal region. The chancroidal ulceration here requires the same treatment as at other points unless defecation is so painful that direct cauterization becomes necessary under spinal anesthesia. If there is a tendency to stenosis, progressive dilatation will soon correct it and may be indicated as a preventive measure.

42. **Buried Protheses for Fractures.**—Lambotte gives a number of illustrations of the small gilt or nickel-plated steel splints which he screws directly on the bone with half a dozen small screws, working through a long incision in the soft parts, as he explains in detail. The method has peculiar advantages for fractures of the forearm or thigh bones. With complete asepsis the prothesis is tolerated indefinitely by the bone tissue. He never touches the screws or plate with his hand, having devised special instruments for the purpose. The wider his experience, the greater his satisfaction with this method of treating certain fractures.

Revue de Médecine, Paris

April XXIX, No. 4, pp. 257-336

45 *Constitutional Toxic Dyscrasia Responsible for Conditions Known as Neurasthenia and Psychasthenia. Bernheim.
46 *Etiology, Pathogenesis and Treatment of Migraine. L. Jacquet and Jourdanet.
47 *Absence of Argyll-Robertson Sign in Certain Cases of Tabes. J. Heitz and Haranchipy.
48 Seventy-nine Cases of Paralysis of Recurrent Nerve. (Pathogénie et importance séméiologique de la paralysie recurrentielle.) E. Guder and R. Dufour.
49 Psychic Disturbances in Parathyroid Syndromes. Laignel-Lavastine.
50 Functional Disturbances and Dissociations with Abnormal Thyroid Functioning. (Discordances et dissociations fonctionelles dans l'évolution morbide des états thyroidiens.) G. Sardou.

45. **Toxic Dyscrasia Responsible for Neurasthenia and Psychasthenia.**—Bernheim has applied suggestion extensively during the last quarter century in the conditions known as neurasthenia, psychasthenia and psychoneurasthenia, and this experience has shown that there are two well-defined forms of neurasthenia which differ little except in their response to suggestion. One form occurs after overwork and emotional and nervous strain, and such patients are easily cured by distractions and suggestion. The other form is the result of the action of some toxin or toxins circulating in the blood, with special affinity for certain tracts in the nervous system. This true neurasthenia is dependent on some organic or toxic disturbance, frequently revealed by the exaggeration of the tendon reflexes. Neurasthenia apparently purely functional may be the precursor of some permanent spinal affection, judging from experiences in his own practice. In three recent cases of intense neurasthenia the patients displayed a tendency to fall over backward when they stood up or tried to walk. This symptom indicates some organic or toxic localization in the cerebellum, confirming his assumption that psychoneurasthenia is not an imaginary affection nor autosuggestion nor a psychoneurosis, but has a toxi-infectious basis, generally some constitutional autotoxic dyscrasia grafted on an inherited diathesis, which may be roused to activity by some emotional or traumatic shock or physiologic strain or casual infection, especially influenza. Suggestion aids the functional elements in the syndrome, but is powerless against the underlying dyscrasia of the nervous system.

46. **Migraine.**—Jacquet and Jourdanet ascribe migraine to too rapid eating in the majority of cases, although in others the liver, the menses, mental strain or eye defects may be responsible. The main point in treatment is to make the patients eat in a more leisurely manner. It is difficult to enforce this, as old habits must be modified, but it is the only certain means of cure. Reading at table must be forbidden, and the patient must have a watch beside his plate. Migraine, they think, is a crisis of objective hyperesthesia of the brain substance, especially of the cortex, with variable nervous radiations, all under the dependence of stimuli emanating from various organs, chiefly from the stomach irritated by imperfectly masticated food swallowed in too short a time, inducing overfunctioning. He summarizes the details of a large number of cases which sustain this conception and which illustrate the prompt benefit derived from treatment based thereon.

47. **Pupil Reaction to Light Retained in Tabes.**—Heitz and Haranchipy state that 15 out of 48 tabetic patients showed some response to the action of light on the pupil. In some the response was practically normal. The Argyll-Robertson sign was also absent in nearly the same proportion in 29 cases in another hospital group and in 12 of 33 in general practice. The persistence of the pupil reaction was evidently due to some special localization of the lesions in the meninges.

Archiv für klinische Chirurgie, Berlin

LXXXIX, No. 1, pp. 1-279. Last indexed May 8, p. 1549

51 *Further Experiences with Operations on the Biliary Passages. (Operationen an den Gallenwegen.) W. Körte.
52 *Location of Appendix Vermiformis. (Lage des Wurmfortsatzes.) R. Liertz.
53 *Fifty-nine Notable Operations on the Biliary Apparatus. (Bemerkenswerthe Operationen am Gallensystem aus den Jahren 1907 u. 1908.) H. Kehr.
54 Proliferation of Fat Tissue and Villi in the Knee. (Ueber Fettgewebs- und Zottenwucherungen im Kniegelenk.) C. Rammstedt.
55 *Imperforate Anus. (Atresia ani.) G. Ziemendorff.
56 *Tubular and Cystoid Dermoids at End of Spine. (Die congenitalen Hauteinstülpungen am unteren Leibesende.) P. Klemm.
57 Negative Action of Fibrolysin on Scar Tissue. (Experimentelle Untersuchungen über die Wirkung des Fibrolysin auf das Narbengewebe.) W. Brandenburg.

51. **Operations on the Biliary Passages.**—Körte analyzes his experiences during the last five years, summarizing forty of the more interesting operations. He does not attempt to operate in case of carcinoma of the pancreas when sure of the diagnosis. One patient has been cured for nearly four years since removal of a carcinoma of the outer end of the common bile duct. The small tumor obstructed the passage of bile. It was removed at an early stage, before the obstructive jaundice had lasted long enough to debilitate the patient, a woman of 47.

52. **Location of the Appendix.**—Liertz gives illustrations of a number of interesting findings in regard to the appendix

observed in the course of 2,092 autopsies or at appendicectomies, including some from the literature. The position of the appendix in the fetus and in children, the origin and length, and the relations of the appendix with other organs are discussed in detail, with illustrations.

53. **Unusual Gallstone Operations.**—Kehr presents and discusses 59 of the more notable operations on the biliary system in the 200 he has performed in the last two years, although he admits that he did not learn anything essentially new from them.

55. **Imperforate Anus.**—Ziemendorff describes a case and reviews 114 which he has found in the literature. He comments on the strange fact that the prognosis has grown graver of late years, and also that rebellious constipation is a frequent sequel even when the trouble has been removed by effectual operation and stenosis or cicatricial obstruction has not developed later. The best results have been obtained with what he calls proctoplastic operations, but these require great perseverance, extensive mobilization of the intestine and careful suture to the skin. The results are good and permanent if other circumstances beyond control do not annul the results, which only too often happens. The 114 cases are tabulated under twenty-four headings Proctoplastic operations for atresia of anus, rectum, urethra and vagina show a mortality of 26.9 per cent. for 78 cases and of 40 per cent. in 45 cases of atresia of the anus or rectum alone, while the mortality was 58.8 per cent. in the 17 cases with fistula. Colostomy has a record of 79.3 per cent. mortality in 29 cases, and simple puncture or incision of 28.6 per cent. in 7 cases. These statistics apply to the mortality during or soon after the operation. In 29 cases of atresia under observation for three months at least, 55.2 per cent. of the patients were free from disturbances, 17.2 per cent. still had some slight trouble, and 10.3 per cent. had died. The ultimate outcome is probably still more disappointing; the infant's peritoneum does not heal readily and the child's crying and restlessness interferes with the healing of the sutured wound or bursts it; such operations thus having a less favorable prognosis in infants than in adults.

56. **Congenital Fistula or Channel in Sacral Region.**—Klemm regards the congenital dimple or hole reaching inward toward the sacrum as a tubular dermoid, and reports five cases in which this congenital cavity became infected, with abscess formation, the constantly recurring disturbances finally necessitating excision of the parts involved. In one of these cases the trouble was an actual cystoid dermoid tumor with a system of fistulas, a multitubular dermoid. In another multitubular dermoid the cystoid growth sent out processes on each side, displaying active postembryonal growth. The excision should always extend down to the bone to ensure removal of all the dermoid tissue.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

XII, No. 7, pp. 241-288. Last indexed May 15, p. 1628

58 *Internal Measures for Arresting Hemorrhage, especially in Hemophilia. (Die neueren innerlichen Blutstillungsmethoden, vorzüglich bei Hämophilie, mit besonderer Berücksichtigung der Verwendung von Serum.) K. Wirth. Commenced in No. 5.

58. **Serum Treatment of Hemorrhage.**—Wirth has found 45 articles on the subject of the internal methods of hemostasis. He reviews them all, with special regard to the use of serum in hemophilia. His analysis shows that the results of gelatin, calcium, strontium and ovarian and other organ therapy have been disappointing, although an occasional success has been realized. Far better results have been obtained with subcutaneous or intravenous injection of fresh animal serum, the method inaugurated by Weil; although Bienwald in 1897 reported the arrest of hemophilic hemorrhage by local application of normal human blood. He drew some blood from the child's grandmother and filled the traumatic wound in the left temple with the blood as a last resort. The foreign blood coagulated in the wound and the hemorrhage was arrested. Twenty cases have been published in which injection of serum arrested hemophilic hemorrhage more or less completely. To date only two cases have been reported in which no benefit was derived (Bonzani and Mauclair). The effect of the serum does not last over a month. The local action of the serum is also considerable, sometimes rendering repetition of the injections unnecessary. Wirth has had considerable experience with this treatment, which he reports in detail. One patient was a boy of 14, known to be hemophilic, with persisting hemorrhage from the nose, throat and gums, which stopped under application of diphtheria antitoxin locally and injections of from 15 to 20 c.c. No by-effects were observed, and the hemorrhagic tendency was kept under complete control by further injections, once a month, for six months. In another case a hemophilic girl of 15 with metrorrhagia and epistaxis was injected with horse serum and the uterus and vagina were tamponed with gauze dipped in normal serum, with prompt benefit. He has thus treated twenty-three patients with hemorrhage from various causes, and is convinced that the injections of serum are actually an efficient means for treatment of hemorrhage. This method of treatment is indicated above all in affections in which the coagulating power of the blood is reduced, although it may prove effectual in other forms of hemorrhage. As a rule, 20 c.c. of serum is enough, but 40 c.c. may be injected without harm. No disturbances were observed in his cases, not even when the injections were repeated. The subcutaneous route should be preferred unless the intravenous is urgently required. Horse serum seems preferable, and ordinary diphtheria antitoxin can be used, selecting the vials with the latest date, and applying the serum also locally to the bleeding spot. He calls attention especially to the subsidence of skin and mucous membrane hemorrhages in a case of cholemia with advanced cirrhosis of the liver. One new-born infant, bleeding freely from nose and mouth, was treated by local application of sponges dipped in horse serum, which rapidly controlled the hemorrhage. In some cases hemorrhages in the lower part of the bowel or from hemorrhoids were arrested by injection of 10 c.c. of beef or horse serum into the bowel.

Deutsches Archiv für klinische Medizin, Leipsic

XCVI, Nos. 1-2, pp. 1-215. Last indexed May 8, p. 1551

59 Cell Inclusions: Peculiar Bodies found Included in Leucocytes. (Leukocyteneinschlüsse.) R. May.
60 Two Cases of Myeloid Chloroma Leukemia, with Autopsy. H. C. Jacobaeus.
61 Relations between Leucocytosis and "Antiferment Reaction" of the Blood. Wiens and H. Schlecht.
62 "Antiferment Reaction" of Blood. (Ueber die "Antifermentreaktion" des menschlichen Blutes.) Wiens.
63 *Influence of Salt on Nephritic Edema. (Einfluss der Kochsalzzufuhr auf die nephritischen Oedeme.) J. W. Blooker.
64 Idiopathic Diffuse Miliary Vascular Disease. (Angiomatosis miliaris.) L. Steiner and H. Voerner.
65 *Pathologic Anatomic Differentiation of Mitral Stenosis and Mitral Incompetency. (Diagnose der Mitralklappenfehler auf Grund der Schliessprobe und Herzwägung.) A. Schabert.
66 The Amount of Blood Expelled by the Ventricles at each Contraction and Tests of Heart Functioning. (Ueber Schlagvolumen und Herzarbeit des Menschen.) A. Müller.
67 *Influence of Alcohol on Blood Pressure and Heart Functioning in Fever. (Einfluss des Alkohols auf den Blutdruck und die Herzarbeit in pathologischen Zuständen, namentlich beim Fieber.) A. Dennig, Hindelang and Grünbaum.
68 Laceration of Papillary Muscles of Mitral Valve. (Fall von Papillarmuskelzerreissung.) A. Dennig.
69 Opsonic Index and its Clinical Importance in Staphylococcus Disease. (Zur opsonischen Methodik nebst Untersuchungen über ihre klinische Verwertbarkeit bei Staphylokokkenerkrankungen.) A. Böhme. Id. in Effusions. Id.

63. **Influence of Ingestion of Salt on Nephritic Edema.**—Blooker gives the metabolic findings in six cases of nephritis showing that the edema in such cases is only rarely the result of primary retention of salt. In one case copious intake of salt seemed to do harm, but in several cases restriction of salt did not show the least influence on the dropsy, while diarrhea and sweating gave great benefit. Only one patient showed a favorable effect from the salt-free diet, but this one success should encourage its adoption among other therapeutic measures. Other procedures are generally equally effectual; when these fail, the salt-free diet generally fails too. Besides this, the salt-free diet is generally repugnant to the patients. It should never be ordered until the conditions in regard to elimination of salt have been determined. He adds that the same purpose is accomplished with milk, weak tea, coffee and cocoa, rice and cereals, without inflicting too great privations

on the patients. Only when they weary of a milk diet and it is known that salt is harmful, should the strict Widal diet be instituted. Blooker treats patients with bed rest and exclusive milk diet in the parenchymatous form of nephritis, allowing the ordinary diet in the interstitial form, with diuretics and heart tonics as needed. If the dropsy does not subside, he gives 10 gm. of salt every day for a few days and watches the weight. If the weight increases, a salt-free diet should be ordered. If not, he pays no further attention to the salt in the food, but tries what diaphoresis or catharsis will accomplish. Different diuretics should be given a trial, as one may succeed when others fail. If the edema requires tapping, this should be done without hesitation. Copious ingestion of fluids caused no disturbance in most of his patients, but he advises not to go above two liters a day.

65. **Pathologic Anatomy of Mitral Defects.**—Schabert expatiates on the valuable retrospective information to be derived from combining the test of pouring water through the mitral valve with determination of the absolute and relative weight of the ventricle in relation to the other parts of the heart. In his autopsies in 11 cases of pure mitral stenosis, 6 of the subjects were over 50 years old. In 9 cases of mitral insufficiency, pure or combined, none of the subjects had reached the age of 50. The stenosis seems to be the terminal phase of the insufficiency. He was surprised at the number of cases of pure stenosis encountered and the long survival. With pure mitral insufficiency there is always hypertrophy of the left ventricle, determined most readily by weighing the different parts of the heart separately.

67. **Influence of Alcohol on the Blood Pressure.**—In the research reported, 956 measurements of the blood pressure in 62 patients were taken before and after ingestion of alcohol. The results are tabulated, the general conclusion being that alcohol should be given sparingly in pathologic conditions.

Deutsche medizinische Wochenschrift, Berlin

May 6, XXXV, No. 18, pp. 785-824

70 Research on Puerperal Fever during the last Twenty-Five Years. (Wege und Umwege zur Erforschung der Genese des Kindbettfiebers im letzen Vierteljahrhundert.) F. Ahlfeld.
71 *Relations between Lymphatism and Scrofula. (Beziehungen des Lymphatismus zur Skrofulose.) E. Moro.
72 Myxofibroma of the Temporal Bone with Multiple Paralysis of Cranial Nerves. (Fall von Myxo-Fibrom des Felsenbeins mit multipler Hirnnervenlähmung.) D. Schwabach and M. Bielschowsky.
73 *Simple Non-Tuberculous Induration of the Apex from Mouth Breathing. (Zur Kenntnis der einfachen nichttuberkulösen Kollapsinduration der rechten Lungenspitze bei chronisch behinderter Nasenatmung.) G. Richter.
74 Marmorek's Serum in Dispensary Treatment of Tuberculosis. (Einjährige ambulante Behandlung mit Antituberkuloseserum Marmorek.) C. Thorspecken.
75 Traumatic Appendicitis. (Zur Frage der traumatischen Epityphlitis.) H. Wohlgemuth.
76 *Mercury Oxycyanid in Internal Treatment of Syphilis. (Hydrargyrum oxycyanatum als internes Antisyphiliticum.) Schulte.

71. **Relations Between "Lymphatism" and Scrofula.**—Moro was surprised to find that in a number of cases of pronounced lymphatism, resembling scrofula in every respect, the tuberculin reaction was negative. He has further investigated the previous history in fifty cases of scrofula giving a positive reaction. From the facts observed he is convinced that what we call "lymphatism" is a constitutional condition, and, if tuberculous infection is superposed, the result is scrofula. The latter does not develop without the "lymphatic" soil, and the tuberculin test is sometimes the only means to distinguish between lymphatism and scrofula. The distinguishing feature of the lymphatic constitution is the exceptional tendency to inflammatory reactions of an obstinate and recurring nature, in which the lymphatic tissue takes the most prominent part, primarily or secondarily. All this is found in scrofula, but it is not the result of the tuberculous infection. Such children are peculiarly sensitive to tuberculosis and after infection are exceptionally sensitive to the tuberculin test.

73. **Non-Tuberculous Induration of the Apex with Impeded Breathing.**—Richter warns that mouth breathers are liable to develop a simple, non-tuberculous "collapse induration" in the apex of the right lung which simulates a tuberculous process, although it is merely the result of insufficient respiration. Normal conditions are liable to be restored when the adenoid growths or other obstructions are removed. It is especially important to differentiate this condition so that these patients will not be sent to sanatoria where they are liable to acquire a superposed tuberculous infection. Blümel declares that fully 5 per cent. of the 1,700 patients at the Görbersdorf sanatorium in the last few years were sent there by mistake as the apical lesions were not tuberculous.

76. **Mercuric Oxycyanid Internally in Syphilis.**—Schulte has used this drug exclusively for internal treatment of syphilis in the last twelve years. He orders 100 pills from 0.5 gm. (7.5 grains) of the oxycyanid in licorice powder, 2 pills 3 times a day, only after eating. He has never seen any disturbances from this drug, given at least in 1,000 cases, except that stomatitis is liable to develop if the mouth is not taken care of. He cites four typical cases to show the prompt and invariable benefit, and urges others to try the oxycyanid.

Jahrbuch für Kinderheilkunde, Berlin

April, LXIX, No. 4, pp. 375-504

77 *Prophylaxis of Diphtheria in Schools. (Bekämpfung der Diphtherie in den Schulen.) R. Schultz.
78 *Fatal Mushroom Poisoning. (Lorchelintoxikation.) E. Lövegren.
79 *Rare Type of Paralysis after Injury during Delivery. (Seltener Lähmungstypus nach Geburtstrauma: Hämatomyelie.) T. Gött.
80 *Clinical Importance of Elimination of Phosphorus in Urine of Breast-fed Infants. (Phosphorausscheidung im Harn beim Brustkind.) L. Moll. Commenced in No. 3.

77. **Diphtheria in the Schools.**—Schultz relates experiences and presents arguments to sustain his view that when a case of diphtheria develops among the children of a certain room in school, all the children in the room should be examined bacteriologically for diphtheria bacilli, or at least those who have been having sore throat. Positive findings should exclude the child from school but he should be allowed to return if two more bacteriologic examinations give negative findings. If the child keeps well for four weeks, or six weeks at longest, he should be allowed to return to school, notwithstanding positive bacteriologic findings, but should be given a seat apart from the other children. If anything develops suggesting that he is the source of new infection he should be excluded from the school again. By this supervision and control of the known and suspicious cases of diphtheria, it is possible to stamp out effectually all incipient epidemics.

78. **Mushroom Poisoning.**—Lövegren reports the postmortem findings in a case of poisoning from the mushroom, *Gyromitra s. Helvella esculenta*, which is not usually considered poisonous. Several members of the family were made ill by eating the mushrooms and a little girl died within twenty-four hours. The kidneys showed microscopic changes similar to those observed in nephritis after diphtheria.

79. **Paralysis After Trauma During Delivery.**—Gött reports three cases of paralysis in children who had been delivered by traction on the feet. The vertebræ seem to be able to stand traction without injury, but the spinal cord suffers as blood vessels are liable to be lacerated. Such hemorrhages generally soon prove fatal, but, if not, flaccid paralysis develops with complete atrophy of the muscles most involved and extensive sensory disturbances, absence of the reflexes, bladder disturbances and sometimes respiratory anomalies. The children generally succumb to colicystitis. The principal feature of this form of paralysis is the thickening of the meninges consequent on the hemorrhage, causing compression of the roots of the nerves passing to the lower half of the body.

80. **Importance of Elimination of Phosphorus in the Urine of Infants.**—Moll ascribes great importance to the phosphorus content of the urine, the large proportion eliminated in disease and its subsidence during convalescence. The tolerance for food can be determined from the urine phosphorus findings which are thus a reliable index for the diet. As the proportion of phosphates declines, the clinical picture improves. In acute gastroenteritis if the proportion of phosphates in the urine is not materially reduced by a day or two of fasting, the prognosis is bad. He is convinced that the presence of organic phosphorus in the urine of breast-fed

children must be regarded as a pathognomonic sign. In his six cases of acute gastroenteritis with fatal outcome, the proportion of phosphates showed no decline during from two to five days of fasting or merely weak tea diet. The proportion of phosphorus in the urine should be determined frequently, and at different hours in the day and night, estimating it in relation to the amount of urine, obtaining a total oversight by comparing the various findings. They will reveal sometimes a rise or fall in the proportion of phosphorus indicating that something is wrong before it is suggested by any other sign. The mechanism involved and the laws regulating the elimination of phosphorus in infants are discussed, especially the proportions between it and the nitrogen in the urine, giving a detailed description of twenty-four cases of gastroenteritis, etc., with the metabolic findings compared with the clinical course and the effects of diet.

Münchener medizinische Wochenschrift

May 4, LVI, No. 18, pp. 897-952

81 Bacteria Antiferments and Bacteriolysis. A. Kantorowicz.
82 Study of Action of Digitalis. (Zur Kenntnis der Wirkung des Digalens.) L. Müller.
83 Comparison of Action of Carbohydrates and Albumin in Diet for Diabetics. (Vergleichende Untersuchungen über die Wirkung von Kohlehydrat und Eiweissnahrung beim Diabetes mellitus.) A. Gigon.
84 *Germs in Ice and Meat Poisoning. (Eiskonservierung und Fleischvergiftung.) H. Conradi.
85 Epidemic Cerebrospinal Meningitis. O. Mayer. Id. G. Liebermeister and A. Lebsanft.
86 Adams-Stokes Syndrome: Gumma in the Auricular Septum. (Gumma des Vorhofsseptum.) C. Handwerck.
87 Thorium Oxid as Substitute for Bismuth in Roentgen-Ray Work. (Wismutverbindungen und ihre Ersatzpräparate in der Röntgenologie des menschlichen Magendarmkanals.) C. Kaestle.

84. **Ice and Meat Poisoning.**—Conradi found paratyphoid bacilli in natural ice from various sources, and suggests that this may be the origin of paratyphoid infection in certain cases. He found that chopped ice is mixed with the meat in making sausages in certain districts.

Therapeutische Monatshefte, Berlin

May, XXIII, No. 5, pp. 241-296

88 Modern Instruction of Deaf Mutes on Basis of Bezold's Research on Deafmutism. (Der moderne Taubstummenunterricht auf Grund Bezolds Taubstummenforschung.) F. Wanner.
89 *Treatment of Furunculosis in Children and Acute Pemphigus in the New-Born by Packs to Induce Sweating and Baths Medicated with Mercuric Chlorid. A. Reiche.
90 Improved Technic for Total Spinal Anesthesia. (Totalanästhesie mittels Injektion in das Rückenmark.) T. Jonesco and A. Jiano.
91 *Diagnosis and Treatment of Glaucoma. Pick. Commenced in No. 4.
92 The French Pharmacopeia. (Codex medicamentarius Gallicus.) P. Fleissig.

89. **Sweating and Mercurial Baths for Furunculosis and Pemphigus in Children.**—Reiche has applied on a large scale Lewandowsky's method of dislodging the staphylococci from their nests in the horny layer of the skin where they start the abscesses. This is accomplished by vigorous sweating; the staphylococci thus drawn forth are then killed by immersing the child in a bath of 1 to 10,000 solution of mercuric chlorid. The child is first given a hot bath and then the pack, with warm drinks, and, possibly, from 0.2 to 0.3 gm. (3 to 5 grains) aspirin. The furuncles are opened and sponged out in the bath and the body lightly rubbed. The child is then rinsed off, wiped dry, and dusted with talcum powder. This procedure is repeated every day for two or three days, the loss of fluids being compensated by plenty of warm drinks. The children tolerate the sweating and baths well and in a number of cases in which all other measures had proved ineffectual, the furunculosis was cured by the end of one or two weeks, and the general health much improved under the cautious diet. This treatment has proved successful even with very frail infants suffering from general furunculosis. The same method has been applied with excellent results in the acute pemphigus of the new-born, supplemented by application of a mixture of 5 parts ichthyol and 5 parts glycerin in 100 parts water.

91. **Glaucoma.**—Pick discusses the diagnosis and treatment of glaucoma and warns that persons over 50 with a hypermetropic, small eye should avoid everything which might induce glaucoma or bring on an attack. Mydriatics should be very cautiously used on them. Atropin should be avoided and 1 per cent. homatropin given the preference, invariably followed by 2 per cent. pilocarpin or 0.5 per cent. eserin. The cases are not rare in which a single application of homatropin or even cocain has been followed by development of glaucoma; he has had such a case in his own experience: Six months after instillation of one drop of homatropin in one eye the patient returned with chronic inflammatory glaucoma in that eye. In case glaucoma is already present, the patient must avoid everything that might induce active or passive hyperemia in the head; emotional stress is particularly injurious in this respect. The bowels must be kept comparatively loose and severe physical exertion avoided, especially prolonged stooping over, and sexual excitement. He has encountered particularly severe and rebellious glaucoma in women at the climacteric age married to considerably younger husbands. There does not seem to be any direct connection between the general pressure in the vascular system and the tension in the eye. Patients living in a tranquil environment stand a better chance for recovery than others. Ten-minute, hot foot-baths may prove useful, with a little mustard or salt in the water. Warm full baths are also to be recommended, but hot full or sitz baths seem to have an injurious effect. A sheltered, inland, mild climate is preferable. Nervines and sedatives can seldom be dispensed with—valerian, bromids, quinin in doses of 0.15 or 0.2 gm. several times a day. The reassuring influence of the physician is an important factor in the cure.

Wiener klinische Wochenschrift, Vienna

May 6, XXII, No. 18, pp. 625-660

93 Micrococcus in the Blood in Puerperal Fever and in the Discharge in Purulent Endometritis. Benefit from Phototherapy. (Der Micrococcus endocarditidis rugatus Weichselbaum im Blute bei Kindbettfieber und im Ausfluss bei eitriger Endometritis; zugleich ein Beitrag zur Lichtbehandlung in der Gynäkologie.) T. H. van de Velde.
94 *Climatic Influences in the Light of Statistics. (Klimatische Einwirkungen im Lichte der Statistik.) K. Chodounsky.
95 Gonorrhea in Little Girls. (Gonorrhoe bei kleinen Mädchen.) O. Scheuer.
96 Auscultation Findings in the Stomach. (Zur Pathologie der Magengeräusche.) T. Frankl.
97 Klausner's Technic for Serodiagnosis of Syphilis. J. Kohn.

94. **Climate and Respiratory Disturbances.**—Chodounsky compares the statistics in Germany and in Austria during a three-year interval of all the patients admitted to hospitals on account of affections of the respiratory organs or acute articular rheumatism, as also the mortality from these affections in a number of climates in European countries. The findings show that the mild and sheltered regions show the largest proportion, while the bleaker regions are the freest from these affections. The difference is not very great, but it is always in favor of the colder and bleaker districts. The records of the mortality from respiratory affections per million inhabitants, show 4,787 for Italy, 3,167 for Scotland, 2,322 for Sweden, 1,759 for Norway, with 3,475 for Constance, the most southerly district in Germany, 3,877 in Alsace-Lorraine, and 1,855 for Posen. In Italy the proportion increases toward the south, from 3,326 in Venice to 6,226 in Apulia.

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

LXIV, No. 2, pp. 225-448. Last indexed April 17, p. 1302

98 *Placenta Prævia. O. Pankow.
99 Metastasis in Lung from Cystoma in Ovary. (Ueber lokale Destruktion und multiple Lungenmetastasen beim Pseudomucinkystom des Eierstockes.) G. W. Nicholson and L. Pick.
100 Primary Adenoma in the Lung. L. Pick.
101 Importance of Systematic Examination of Blood in Puerperal Fever. (Zur Methodik der Blutuntersuchung bei Puerperalfieber.) C. Lange.
102 Rare Form of Placental Cyst. (Zur Lehre von der Blasenmole.) M. Krüger.
103 Technic for Tubal Sterilization that can be Undone Later. (Kleine operationstechnische Mitteilungen.) H. Sellheim.
104 Unreliability of Lactic Acid for Obstetric Disinfection. (Bedeutung der Milchsäure für die Geburtshilfe.) G. Becker.
105 *Treatment of Puerperal Pernicious Anemia by Transfusion of Blood. E. Sachs.

98. **Placenta Prævia.**—Pankow writes from Krönig's clinic at Freiburg to relate the details of eight cases of placenta prævia treated systematically by the classical Cesarean sec-

tion, with no morbidity. This method of treatment, he warns, is exclusively for institutional cases with the utmost favorable conditions for the intervention.

105. **Treatment of Puerperal Pernicious Anemia with Transfusion of Blood.**—Sachs gives the particulars of a case in which such a rapid transformation in the condition and in the blood picture followed the transfusion of blood, that he thinks that it is impossible to ascribe the phenomena observed to a mere coincidence. He reviews the similar experiences on record and commends his technic: injection of about 325 gm. of defibrinated blood into the median vein of the patient, about 250 c.c. actually entering the vein. There was no disturbance at the time, but a chill occurred in thirty minutes with transient rise in temperature. The improvement commenced the next day and the curves appended showed the transformation, the hemoglobin running up to 75 per cent. and the reds from 985,000 to 3,720,000 in one month. The differential blood count for this period is tabulated in detail. The principal danger from therapeutic transfusion of blood lies in the loss of vitality of the red corpuscles. They die if they are heated too much; consequently the blood to be injected must never be warmed over 45 C. They also die if they remain too long outside the body, although they may be kept on ice up to seventy-two hours. If blood is used from persons requiring therapeutic venesection on account of eclampsia, uremia or edema of the lungs, there is a possibility that such blood may prove injurious, and there is also a possibility of transmission of constitutional disease. As the fibrin ferment is released by the destruction of white corpuscles, blood unusually rich in leucocytes should never be used for transfusion. The results observed in his case suggest that the single powerful stimulus of the transfusion of blood acts on the bone marrow to such effect that it starts it on the road to normal functioning. The improvement in his case was more rapid, more pronounced and constantly progressive than in any other case he has found on record, which may possibly be attributed to the exceptionally large amount of blood injected.

Zeitschrift für klinische Medizin, Berlin

LXVIII, Nos. 1-2, pp. 1-176. Last indexed May 15, p. 1632

106 *Polycythemia. (Zur Kenntnis der Erythrämie.) J. M. Gordon.
107 Elimination of Creatin and Creatinin in Febrile Diseases. (Ausscheidung von Kreatin und Kreatinin in fieberhaften Krankheiten.) K. O. af Klercker.
108 *Clinical Experiences with Lesions of Central and Peripheral Nervous System. L. Jacobsohn.
109 Causes of Mistakes in Diagnosis of Stenosis of Left Venous Opening into the Heart. (Ursachen von Fehldiagnosen der Verengerung des linken venösen Herzostiums: Stenosis ostii venosi sinistri.) J. Pawinski.
110 Should Seneca's Illness be Regarded as Asthma or Angina Pectoris? (Zur Geschichte der Medizin.) Id.
111 Treatment of Rachitis with Cod Liver Oil, Phosphorus and Lime. (Behandlung der Rachitis mit Lebertran, Phosphor und Kalk.) J. A. Schabad.
112 *Action of Amyl Nitrite on the Arterial System. (Wirkung des Amylum nitrosum auf das gesunde und sklerotische Arteriensystem.) C. v. Rzentkowski.
113 *Metabolic Processes in Leukemics after Roentgen-Ray Treatment. (Stoffwechselversuche an bestrahlten Leukämikern.) B. Vas.
114 *Functional Heart Disturbances in Fibrinous Pneumonia. (Beiträge zur funktionellen Diagnostik.) A. S. v. Solowzoff.
115 Ferments in Urine. (Fermente in menschlichen Harne.) F. Falk and S. Kolleb.

106. **Polycythemia.**—Gordon gives the details of three cases from von Noorden's clinic at Vienna, comparing them with others on record. The prognosis is generally grave aside from the few cases in which the course was unusually prolonged. The serious consequences of the severer forms of the plethora are felt most in the heart and brain and usually entail a fatal termination although none of his patients has succumbed. To date the affection has resisted all kinds of treatment: quinin, arsenic, oxygen, venesection, *x*-ray exposures, splenectomy and "iron-free" diet. Neisser has reported a case of polycythemia with somnolency, the syndrome persisting for seven years but then vanishing entirely under the influence of venesection and inhalation of oxygen.

108. **Some Rare Nervous Affections.**—Jacobsohn gives illustrated descriptions of a number of unusual affections of the central and peripheral nervous system observed in 360 patients with nervous troubles taking treatment at the university hydrotherapeutic institute.

112. **Action of Amyl Nitrite on the Arteries.**—Rzentkowski relates extensive research which shows that in health amyl nitrite relaxes the arteries with a very slight drop in the diastolic blood pressure. The blood pressure returns at once to normal on removal of the amyl nitrite, thanks to the elasticity of the arteries. In arteriosclerosis the diastolic blood pressure drops considerably although the heart action may be stronger. On removal of the amyl nitrite conditions return only very slowly to normal, the blood pressure not returning to its former height until after half an hour. The phenomena observed indicate that the higher tension in arteriosclerosis is the consequence of the permanent organic contraction and immovability of the intestinal arterial system. The true essence, therefore, of arteriosclerosis is the lack of elacticity in the walls of the intestinal arteries. He has the patients inhale ten drops of amyl nitrite at once, and has never witnessed any threatening symptoms from it in several hundred experiments on healtny subjects. He has also found it effectual in treatment of tuberculous hemoptysis.

113. **Metabolic Findings in Leukemia Under Roentgen-Ray Treatment.**—Vas summarizes his conclusions in the statement that Roentgen treatment has a similar action in both lymphatic and myelogenous leukemia. Under its influence the elimination of purin bodies is increased but not to parallel the numerical fluctuations in the leucocytes.

114. **Functional Diagnosis in Pneumonia.**—Solowzoff states that Katzenstein's method of examining the functioning of the heart proved valuable in the twelve cases of fibrinous pneumonia reported in detail. The test revealed prolonged weakening of the heart not demonstrable by any other objective sign. This weakness reached its height the second or third day after the crisis, even in vigorous patients and in those treated with digitalis. This also occurred in croupous pneumonia except that in these patients the blood pressure did not drop if they had been given digitalis. Caffein and strophanthin improved only while the drugs were being taken. The Katzenstein method has been described in these columns; it consists in compressing both femoral arteries just below Poupart's ligament. With a healthy heart the pulse rate grows slower or does not change while the blood pressure rises by 5 or 15 mm. mercury with Gärtner's tonometer. If the pulse increases and the blood pressure does not rise, this reveals cardiac insufficiency. The blood pressure drops with hypertrophy of the left ventricle. If the blood pressure does not increase while the pulse becomes accelerated, this shows still greater weakness on the part of the heart. This method is easily applied, requiring no cooperation on the part of the patient. The blood pressure and pulse were recorded at four minute intervals in his tests.

Policlinico, Rome

April 25, XVI, No. 17, pp. 517-548

116 Permanent Cultures of Bacteria. (Contributo alla preparazione di colture batteriche permanenti.) G. D'Agata and N. Pane.
117 *Iodin Treatment of Goiter. (Cura iodica del gozzo.) C. Urso.
118 *Exophthalmic Goiter following Iodin Treatment. (Morbo di Basedow conseguente all'uso di preparati iodici.) A. Cerioli.

May 2, No. 18, pp. 549-580

119 *Nervous Syndrome, etc., Complicating Ankylostomiasis. (Di taluni accidenti e sindromi nervose complicanti l'anchilostomiasi.) A. Signorelli.

117, 118. **Iodin Treatment of Goiter.**—Urso reports two cases of goiter in young women treated by daily injection of about 1 gm. of a 1 or 2 per cent. solution of iodin every day or second day, in Durante's iodo-iodid formula: 0.1 part iodin to 2 parts potassium iodid and water to 100 parts. Forty injections were made in one case and forty-five in the other, the fluid being injected so as to have it diffuse throughout the entire parenchyma during the course of the treatment. The goiter subsided completely in both cases with no signs of recurrence during the several months since. It was of the colloidal form in both. Cerioli's article follows the above with a description of two cases of large goiter in women of 51 and 54, who were given a course of potassium iodid as the goiter seemed inclined to grow larger. The first patient took 15 gm. of potassium iodid in 300 gm. of water in the course of

fifteen days, as ordered, but by mistake she took at one dose in the morning the entire daily dose which should have been fractioned and taken after meals. She commenced to lose weight at once and the goiter also subsided, but symptoms of exophthalmic goiter developed with a recurrence of an old knee affection and crural adenitis and the goiter returned to its former size. In the course of several months these symptoms gradually subsided and the patient is now comparatively well. The second patient had arthritis, a cardiac defect and asthma, in addition to the goiter and considerable obesity. Potassium iodid was given tentatively but the patient rapidly lost weight and the heart symptoms grew more pronounced although the asthma vanished, and tremor was observed. No change was apparent in the goiter and the iodid treatment was soon suspended, but the symptoms and general malaise persisted for several months. He accepts a special susceptibility in these cases to the action of the iodid and calls attention to the onset of symptoms suggesting hyperfunctioning of the thyroid even while it was rapidly subsiding in size. This throws light on the cases of exophthalmic goiter without enlargement of the thyroid, and illustrates that the hyperfunctioning of an organ is not necessarily accompanied by unusual size.

119. **Nervous Symptoms with Ankylostomiasis.**—Signorelli reports three cases in which hookworm disease was accompanied by a meningeal, a neuralgiform or a convulsive, epileptiform syndrome. The patients were, respectively, 10, 17, and 23 years old.

Upsala Läkareförenings Förhandlingar

XIV, Nos. 3-4, pp. 205-348. Last indexed Feb. 20, p. 67½

120 Deformities of the Skull, especially the Artificially Deformed. III. (Om kraniala deformationer, särskildt den artificiella bathry- och clinocefalli.) G. Backman.

121 *Primary Actinomycosis of the Salivary Glands. (Om primär spottkörtelaktinomykos.) G. Söderlund.

122 Experiences with Operative Treatment of Malignant and Non-Malignant Gastric Lesions and Gallstone Operations. G. Ekehorn.

123 *Operative Treatment of Prolapse of the Rectum in Children. (En enkel men rationel operative behandlingsmetod af prolapsus recti hos barn.) Id.

121. **Primary Actinomycosis in Salivary Glands.**—In one of the two cases reported by Söderlund, a scrap of a head of barley was found sticking in the tissue of the sublingual gland, the outer end in one of its excretory ducts. The patients were a woman of 65 and a boy of 10, and in both the small hard tumor had developed in the course of a month or two. It was ascribed to a tuberculous origin in one case until after excision and microscopic examination.

123. **Method of Curing Rectal Prolapse in Children Without the Knife.**—Ekehorn passes a needle through the soft parts, at one side of the sacrum, until the tip emerges in the rectum where the operator's other hand threads the needle with a piece of stout silk suture material. This end of the silk is then drawn back and out, and the needle is introduced again in the same way on the other side of the sacrum, where it is threaded with the other end of the silk gut which is drawn out in the same way and the two ends are tied together over the sacrum. This brings the rectum up against the sacrum and as adhesions form the tendency to prolapse is permanently corrected without any cutting operation. In the four cases reported, the silk was removed after two weeks; the patients were between 2 and 5 years old, and there has been no sign of recurrence in any instance. It is not necessary to keep the patients in bed after this simple procedure.

Books Received

DIGEST OF COMMENTS ON THE PHARMACOPEIA OF THE UNITED STATES OF AMERICA. [Eighth Decennial Revision.] 1905. By Murray Galt Motter and Martin I. Wilbert. Hygienic Laboratory. Bulletin No. 49. March, 1909. Paper. Pp. 295. Washington: Government Printing Office, 1909.

DANIEL DRAKE AND HIS FOLLOWERS (1785-1909). Historical and Biographical Sketches. By Otto Juettner, A.M., M.D., Fellow of the American Academy of Medicine. Cloth. Pp. 496, with illustrations. Price, $5. Cincinnati: Harvey Publishing Co.

COMMERCIAL LAW SIMPLIFIED. By Charles C. Simons, of the Detroit Bar. Leather. Pp. 510. Price, $5. Detroit: The Business Man's Publishing Co.

HYDROTHERAPY. A Brief Summary of the Practical Value of Water in Disease. By William H. Dieffenbach, M.D., Professor of Hydrotherapy, New York Homeopathic Medical College and Flower Hospital. Cloth. Pp. 267, with illustrations. Price, $3. New York: Rebman Co.

EXPERIMENTAL PHARMACOLOGY. A Laboratory Guide for the Study of the Physiologic Action of Drugs. By Charles Wilson Greene, Ph.D., Professor of Physiology and Pharmacology, University of Missouri. Edition 3, with 37 illustrations. Cloth. Pp. 76. Price, $1. Philadelphia: P. Blakiston's Son & Co., 1909.

MEDICAL AND SURGICAL REPORT, CITY OF NEW YORK DEPARTMENT OF PUBLIC CHARITIES, City Hospital, Blackwell's Island. No. 1. 1909. Cloth. Pp. 237, with illustrations.

MEDICAL AND SURGICAL REPORT OF THE PRESBYTERIAN HOSPITAL IN THE CITY OF NEW YORK. Vol. VIII, December, 1908. Edited by John S. Thacher, M.D., and George Woolsey, M.D. Boards. Pp. 371, with illustrations.

ATLAS DER RECTALEN ENDOSKOPIE. Von Dr. Arthur Foges, Wien. 1. Teil. 40 Mehrfarbige Lichtdruckbilder auf 20 Tafeln und 7 Abbildungen in Texte. Paper. Pp. 62. Price, 14 marks. Wien: Urban & Schwarzenberg, 1909.

New Patents

Recent patents of interest to physicians:

918975. Eye-shade. S. H. Dice, Newark, N. J.
919138. Surgical needle. C. A. Drake, West Orange, and S. W. Dodd, Montclair, N. J.
918991. Invalid-bed. F. L. Gaines, Grand Rapids, Mich.
919152. Surgical needle holder. C. O. Gause, New Sharon, Iowa.
919159. Stretcher. F. L. Goddard, Douglas, Alaska.
919049. Purifying potassium bitartrate. M. F. Martinez, Jarez de la Frontera, Spain.
918762. Atomizer and nebulizer. C. W. Meinecke, Jersey City, N. J.
918589. Apparatus for separating nitrogen and oxygen from mixtures containing them. R. P. Pictet, Berlin, Germany.
919250. Bandage and the like. D. Sarason, Berlin, Germany.
918774. Hypodermic needle. G. R. Schimmel, Detroit.
918612. Separating liquid from solid fatty acids. E. Twitchell, Wyoming, Ohio.
920023. Instrument case. M. S. Chism, Philadelphia.
919560. Sanitary calcimine. C. Ellis, Larchmont, N. Y.
919710. Sterilizer. A. J. Gero, Waterville, Me.
919875. Suspensory. G. C. Johnson, Dillon, S. C.
919445. Ozonizer. A. Lohman, Philadelphia.
919918. Syringe. P. J. McElroy, Cambridge, Mass.
919614. Hot-water or ice bag. C. W. Meinecke, Jersey City, N. J.
919649. Vibrator. H. M. Sciple, Minneapolis.
919397. Obstetrical instrument. W. M. Thomas, North English, Iowa.
919406. Surgeon's glove. H. W. Warren, Cuyahoga Falls, Ohio.
920711. Disinfecting device. G. W. and C. W. Allen, Syracuse, N. Y.
920814. Apparatus for dermal treatment. H. Behm, Brooklyn, and C. Rempt, Paterson, N. J.
920824. Face-bleach. E. J. Clark, Glendive, Mont.
920112. Surgical appliance and forming the same. A. M. Cordley, Glenridge, N. J.
920441. Device for preventing seasickness. G. Dittmar, Washington, D. C.
920308. Beauty pillow. E. Fitze, Houston, Tex.
920459. Drainage apparatus for surgical use. A. J. A. Hamilton, Milton, Mass.
920463. Bed and douche pan. D. Hogan, Hoboken, N. J.
920180. Sputum cup. H. J. Potter, Cambridge, Mass.
920881. Radium compound and making same. J. Reitz, Schmargendorf, near Berlin, Germany.
920683. Truss. T. J. Stevens, Boston.
920211. Bed-pan. M. E. Storrs, Henning, Minn.
920500. Examination-operating, or treatment table. E. W. Thomas, Philadelphia.
920224. Manufacturing nitric acid. F. S. Valentiner, Leipzig-Plagwitz, Germany.
920225. Douche-cabinet. S. V. Van Denburgh and J. H. Glismann, Syracuse, N. Y.
921902. Hair-tonic. T. H. Bartlett, Los Angeles.
921592. Shoe bunion-protector. C. N. Cole, Ilion, N. Y.
920922. Invalid-bed. S. Csuthy, Cleveland, Ohio.
921387. Nursing bottle. E. E. Etter, Turtle Creek, Pa.
921251. Extracting essences and tinctures from vanilla-beans. E. M. Howell, New York.
920955. Means for administering air or gas. S. Jackson, Stockton, Cal.
921130. Syringe. B. F. Lockwood, Frewsburg, N. Y.
921559. Osteopathic table. J. V. McManis, J. R. Reed and R. E. Bounds, Baird, Texas.
921563. Ankle-supporter. A. Quenzer, Brooklyn.
921468. Invalid table. J. Scheibner, Beaver Falls, Pa.
921034. Inhaler. H. Weir, Portland, Ore.
921671. Vibratory massage apparatus. H. C. Brown, Chicago.
922133. Thermoplastic compound of proteids and amins. B. B. Goldsmith, New York.
922420. Facial mask for removing and preventing wrinkles. E. Hannig, Goldfield, Nev.
922307. Atomizer. C. E. Michael, Fostoria, Ohio.
922331. Hypodermic syringe. T. M. Quarles, Washington, D. C.
921903. Ozonizer. E. W. Smith, Philadelphia.
921751. Combination tent-bag. A. L. Strawn and F. C. Spencer, Monte Vista, Colo.
921927. Hair tonic. E. M. Waterman and N. Brown, Centralia, Wash.

PROGRESSIVE THERAPEUTICS

THE INCREASING USE OF LOCAL ANESTHESIA IN GENERAL SURGERY.

To one who has not given close attention to the subject, it is astonishing how many of the operations in general surgery, that formerly required ether or chloroform, can be done painlessly and in perfect safety under a local anesthetic, and without serious and disquieting consequences, such as vomiting, intestinal disturbances, pulmonary difficulties and suppression of urine.

Considering these advantages, it seems strange that the use of local anesthesia in general surgery remains so limited in the many cases suited to its employment. There are, however, reasons for this: the newness of reliable methods, the skepticism of surgeons, and above all, perhaps, the mental attitude of patients against operations during consciousness—a psychological inheritance having its foundation amongst the horrors of the ancient operating rooms. In fact, it will probably take years to establish that confidence in local anesthesia which it really merits, just as it will require another generation, with different ideas of height and equilibrium, to become accustomed to aerial navigation. In the meantime, however, surgeons should avoid the use of chloroform and ether as much as possible; not only as a matter of safety, but in order to accustom people to the employment of the better method, remembering always that success will depend not only upon having a suitable case, but also a suitable patient. This is being done abroad much more extensively than in this country, many surgeons doing much of their work in this way.

When cocain was discovered, the problem of local anesthesia was thought to have been definitely solved, and many brilliant operations were done under its influence; but it soon became evident that the strong solutions employed were not free from danger, a number of deaths from poisoning being reported from time to time. Schleich now introduced his method of infiltration with very weak solutions, which, although safe, was not always satisfactory. It was then noticed that if the circulation was impeded by an Esmarch strap, a smaller amount of cocain sufficed for a more prolonged anesthesia, while the danger of poisoning was materially decreased. Meanwhile, experiments were made with other less powerful drugs, such as eucain, alypin, Novocain, etc.; and finally, the discovery was made that the addition of a few drops of adrenalin produced through vascular contraction, much the same results as did the use of the Esmarch strap, even in situations where it was impossible to employ the latter, thus widely extending the usefulness and practicability of the method.

The technic varies according to the nature of the operation, and it must be carried out with great exactness, failure to do this often accounting for lack of success.

The best solution for general use is probably that recommended by Heinrich Braun, consisting of Novocain 0.25 grm. and normal salt solution 50 grm., together with 5 drops of adrenalin chlorid, the amount of Novocain being sometimes increased or decreased in special cases.

Very recently a new method of producing extensive local analgesia has been introduced by Bier, which promises much, as it permits of the performance of even such major operations as the amputation of limbs and the resection of joints. A weak solution of the anesthetic—Novocain (see description New and Nonofficial Remedies), for instance—is introduced through a vein into the field of operation, as in ordinary transfusion, the general circulation being protected by the use of an Esmarch bandage.

In fact, the whole subject of local anesthesia in general surgery is receiving so much attention at present that one can safely predict a great increase in its use as soon as its advantages and possibilities become more widely understood by the laity and by the profession.—Editorial from *Colorado Medicine*, Denver, October, 1908.

NOVOCAIN SUCCEDANEUM FOR COCAIN.

Novocain is the hydrochlorid of p-aminobenzoyldiethylaminoetnanol and crystallizes from alcohol in colorless needles possessing a melting point of 150° C. It can be heated without decomposition to 120° C. It dissolves in equal parts of cold water, and the solution possesses a neutral reaction; in cold alcohol it dissolves in the proportion of 1 to 30. Caustic alkalies and their carbonates precipitate the free base from the aqueous solutions in the form of a colorless oil which soon solidifies to a crystalline mass. Alkaloidal reagents, such as potassium mercuric iodid, picric acid and potassic iodid solution, produce precipitates even in very dilute aqueous solutions of Novocain.

Novocain produces no mydriasis, no disturbance of the accommodation and no increase of intraocular pressure.

The drug possesses the same action upon the peripheral sensory nerves as cocain; the 0.25 per cent. solution suffices to completely anesthetize even the thick nerve trunks, such as the sciatic nerve, in about 10 minutes. Applied locally, Novocain produces no by-effect; and particularly there are no symptoms of irritation whatever.

The general effect of Novocain on the system after its absorption is scarcely perceptible, neither the circulation nor the respiration being affected. The cardiac activity does not suffer. Practically no changes are observed in the blood pressure and respiration curves traced by the kymograph, when 0.15 to 0.2 grm. Novocain is injected subcutaneously into rabbits.

Experiments show that in all forms of employment Novocain is about six times less toxic than cocain.

Pharmacological and clinical trials show further that Novocain not only does not reduce the action of suprerenalin, the active adrenal substance, but on the contrary increases it.

In ophthalmic practice 1 per cent., 5 per cent. and 10 per cent. Novocain solutions produce no dilatation of the pupils. If desired there may be added to each 10 c.c. of the solution 6 to 8 drops of suprarenalin solution 1 to 1,000.

In rhinolaryngology 5 to 10 per cent. solutions are employed for anesthesia of the mucous membranes; 10 to 20 per cent. Novocain solutions for anesthesia of the larynx and cain not only does not reduce the action of suprarenalin, the solution 1 to 1,000 may be added per 1 c.c.

Syringes sterilized with sodium carbonate solution must be rinsed with sterilized water or physiological salt solution before Novocain solutions are drawn in.—The *Homeopathic Eye, Ear and Throat Journal*, December, 1907.

LOCAL ANESTHESIA OF JOINTS.

Bier (*British Medical Journal*, Aug. 22, 1908), at the thirty-seventh German Congress of Surgery, held in Berlin in April, 1908, described a new method of applying local anesthesia, which he advised for operation on joints, especially the elbow or knee. The limb is first rendered bloodless by an Esmarch bandage, then a constricting bandage is left above and below the joint, and the first bandage is removed. A suitable vein is then exposed—the median or saphena answers well for the purpose—and 100 cubic centimeters of a ½ per cent. Novocain solution is introduced into the vein. Complete anesthesia results as high as the upper compressing bandage. In a few cases Bier only obtained analgesia, but in the majority complete anesthesia was present within a few minutes of carrying out the injection. The Novocain is dissolved in physiological salt solution, and 100 to 150 cubic centimeters suffices for all cases. Intoxication need not be feared, as the solutions used are weak. The lower bandage should be removed before the upper one is loosened, but Bier finds that the solution can be washed out of the vein with saline fluid if any apprehension of a toxic effect is present. In the case of amputations, the fluid escapes of itself.—Abstracted by the *Therapeutic Gazette*, Jan. 15, 1909.

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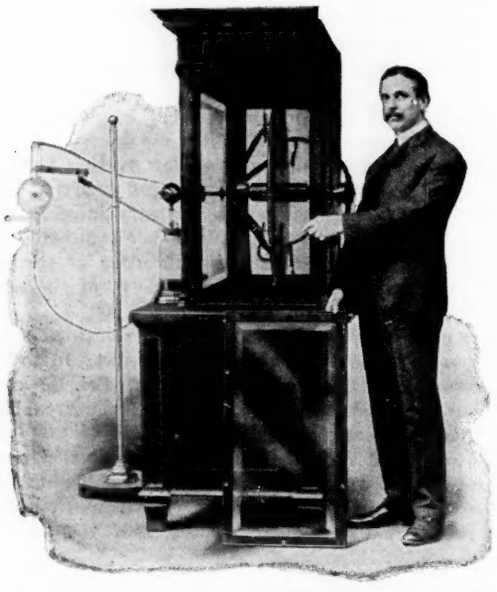

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